THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION

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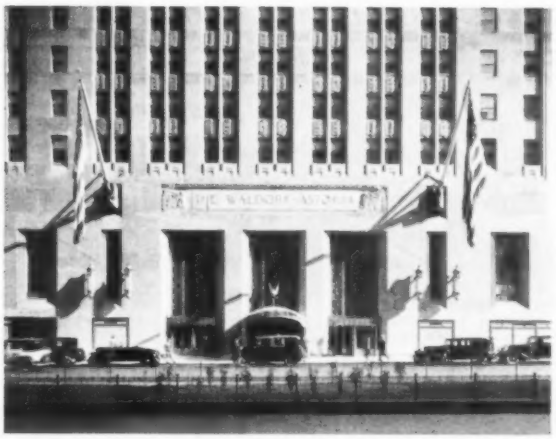
Fortieth Annual A.O.A. Convention and Exhibit



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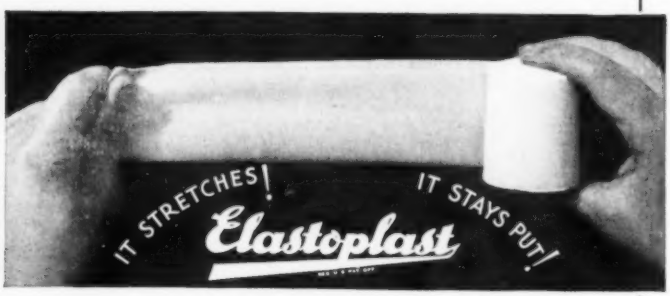

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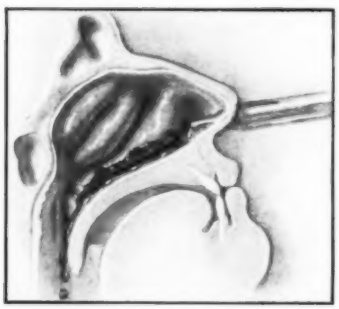

Fig. 1. The distribution of a liquid inhalant when applied by a dropper.

The solution does not reach beyond the lower border of the inferior turbinate, the bulk of the liquid gravitating to the pharynx. The spaces between the turbinates, where the congestion is greatest, have not been reached.

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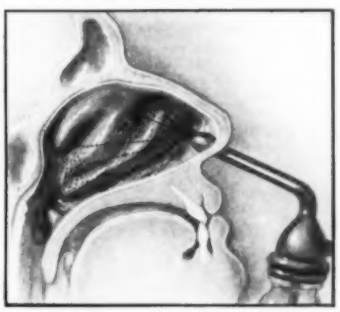

Fig. 2. The distribution of a liquid inhalant when applied by a spray or atomizer.

The inferior turbinate intercepts the bulk of the liquid intended for the middle and upper meati, sites of greatest congestion. The excess liquid is deflected to the roof of the hard palate, whence it reaches the pharynx.

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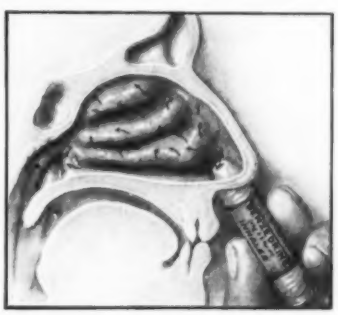

Fig. 3. The distribution of a vapor when sniffed up the nose by means of an inhaler.

The vapor diffuses throughout the entire upper respiratory tract, reaching and reducing congestion wherever it exists.

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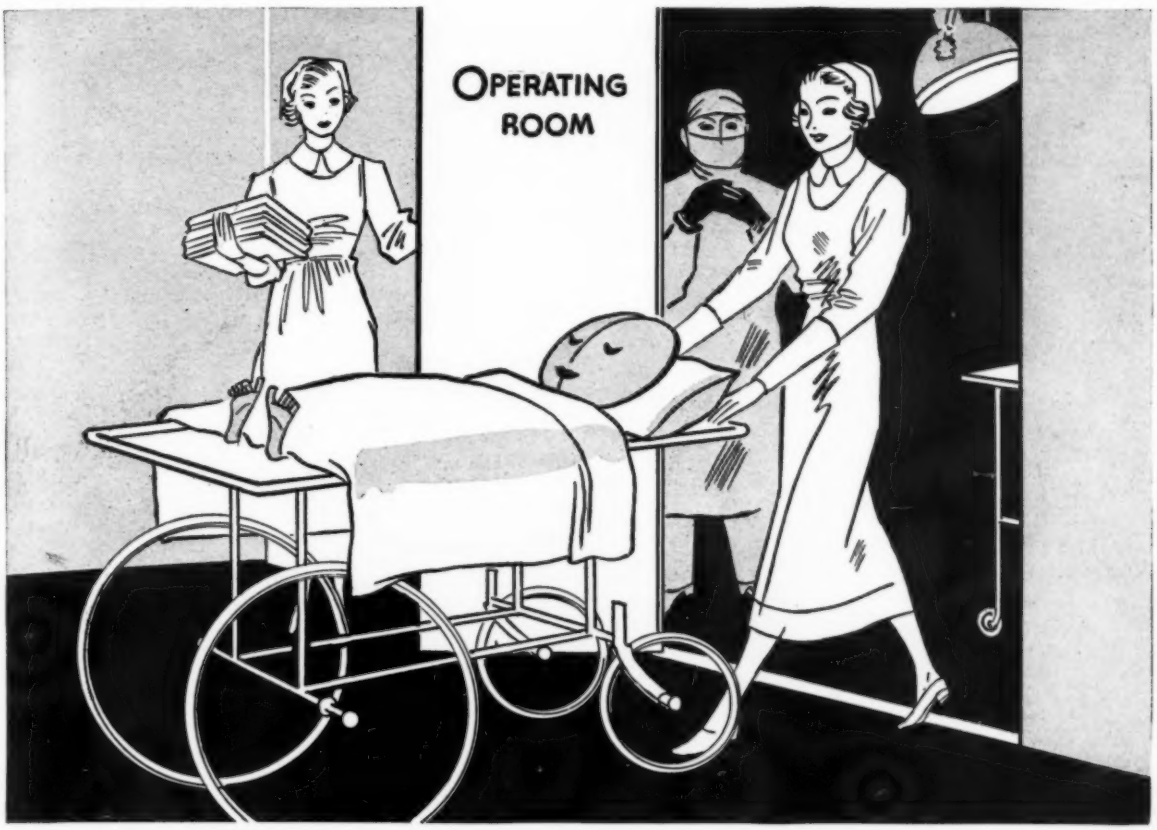

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Of necessity, canning procedures vary with the product packed. However, it is possible to indicate in broad detail the treatment to which foods may be subjected during canning.

Cleansing Operations

Raw materials are given a thorough water cleansing, usually by washing under high pressure sprays.

Preparatory Operations

Following washing, undesirable stock is removed by sorting, trimming, peeling and coring operations, as occasion may demand. With some products these operations are performed mechanically.

Blanching

Certain products are "blanched" or scalded by immersion in hot water. This process serves not only to clean the product further, but also to soften the tissues and expel air therefrom.

Preheating and Filling Operations

Here practice varies with the product. Sometimes the food is precooked and filled into cans; again, it may be filled into cans and hot water or hot salt and/or sugar solutions added; still again, the filled cans are "exhausted" in a steam or hot water box. All these operations, the majority of which are mechanically performed, serve to preheat the product and exclude air from the cans.

Sealing, Processing and Cooling Operations

The filled cans are hermetically sealed on an automatic "closing" machine while the contents are still hot; the sealed cans are then heat processed to destroy spoilage micro-organisms; finally, the cans are cooled in water or air. Cooling contracts the contents and produces a vacuum within the can.

Such are the broad details of the canning procedure. We trust this brief word picture will bring better understanding of the treatments to which canned foods are subjected.

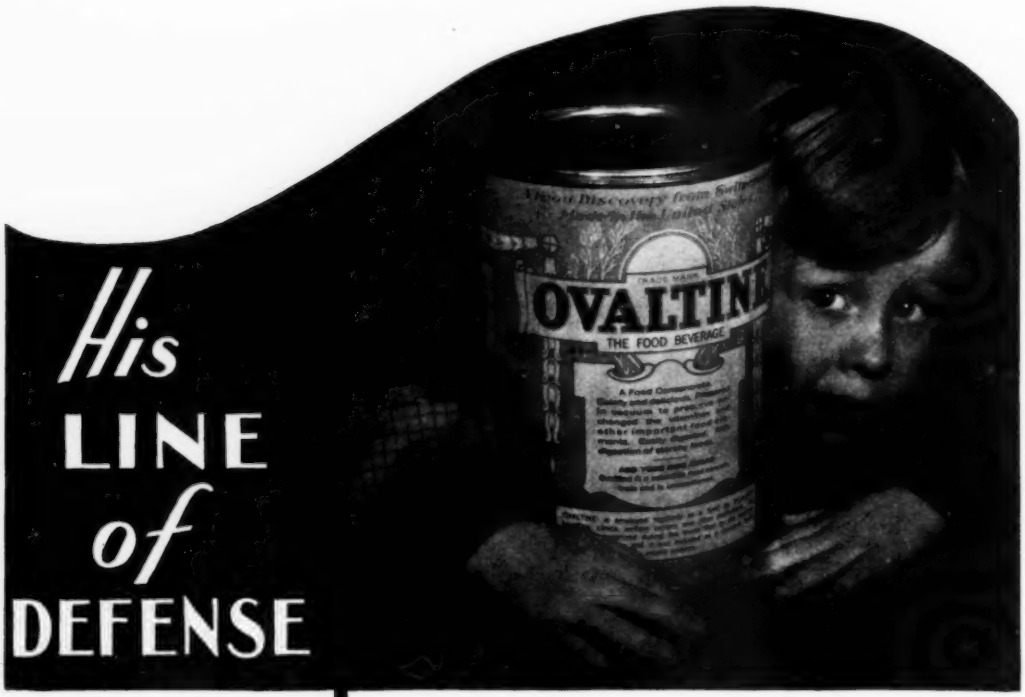
AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) 1924, Commercial Fruit and Vegetable Products, W. C. Cruess, McGraw-Hill, New York

(2) 1924, A complete Course in Canning, The Canning Trade, Baltimore

This is the eighth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



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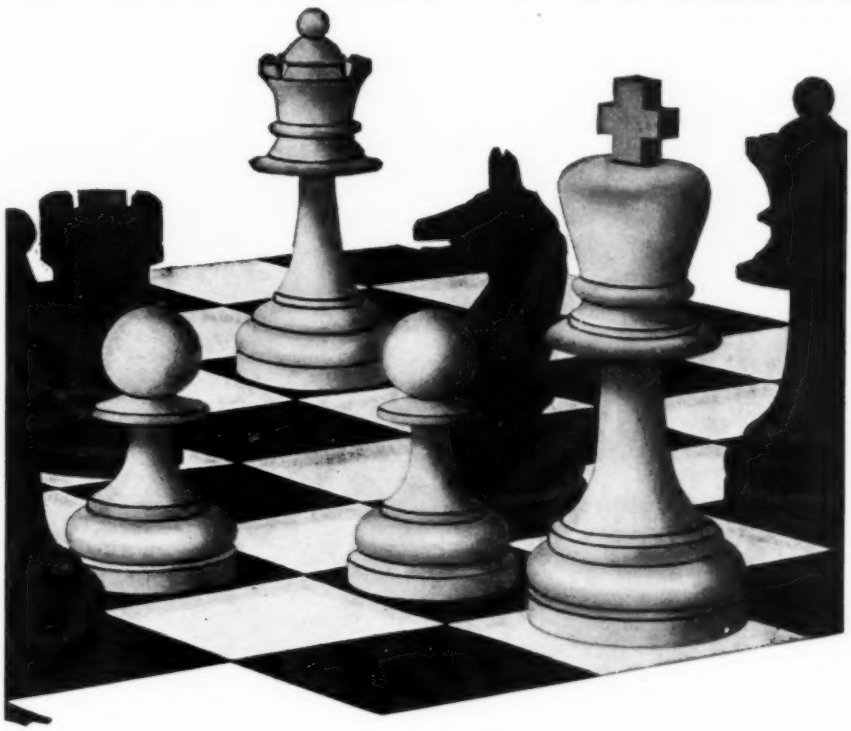

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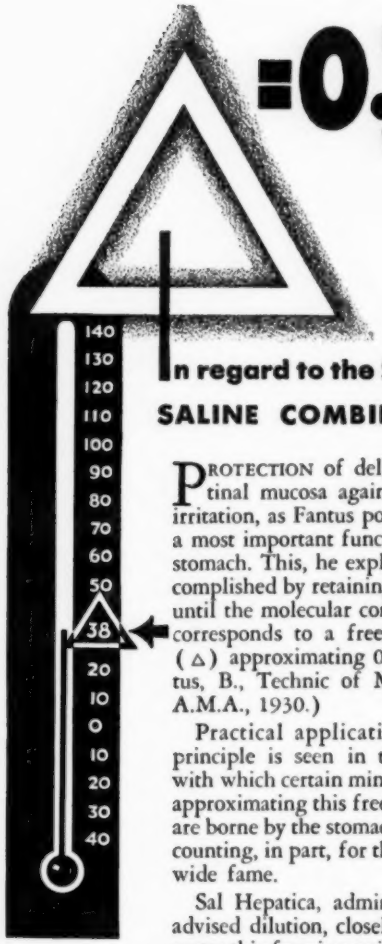

In regard to the SAFETY of SALINE COMBINATIONS

PROTECTION of delicate intestinal mucosa against osmotic irritation, as Fantus points out, is a most important function of the stomach. This, he explains, is accomplished by retaining solutions until the molecular concentration corresponds to a freezing point (△) approximating 0.38. (Fantus, B., Technic of Medication, A.M.A., 1930.)

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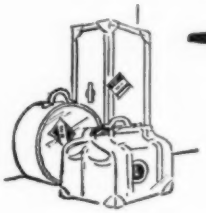

No. 18

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—Kugelmass, Clinical Nutrition in Infancy and Childhood (p. 53)

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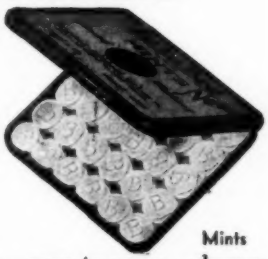

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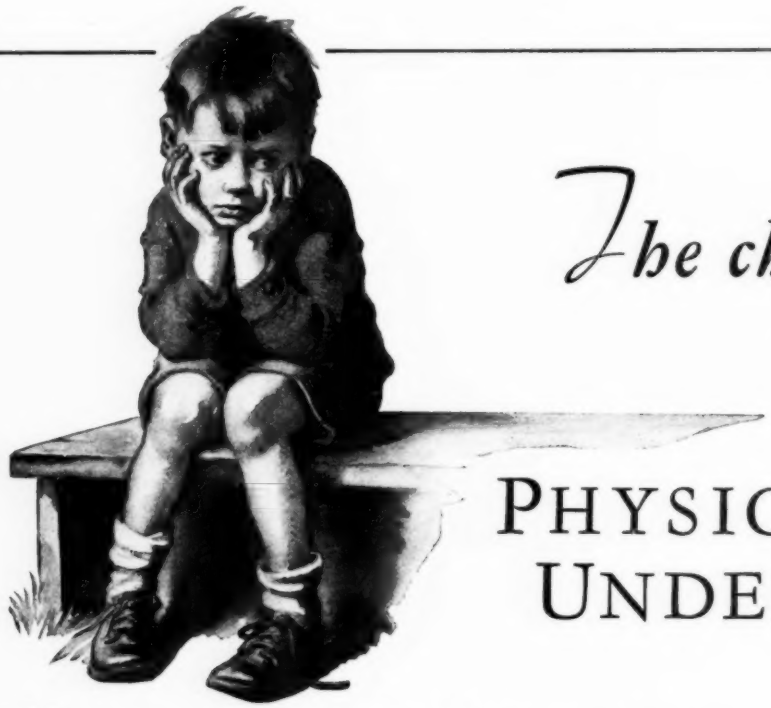

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The Effects of Indirect Splenic Treatment in Normal Individuals*

LOUISE FERRIS-SWIFT, D.O.

Kansas City, Mo.

The clinical effectiveness of direct organ treatment, usually referred to as "stimulation," in cases of acute infectious diseases has been observed by osteopathic physicians for many years. These effects inspired investigation of direct treatment of liver and spleen by A. C. Whiting,[1] as early as 1909 and 1910, and by M. A. Lane,[2] in 1920. Dr. Whiting's twenty-two experiments were directed to the liver, manipulative treatment being given directly over the liver, and also to the vertebrae segmentally related to the sympathetic nerves controlling liver function. He found that the opsonic index for the tubercle bacillus was raised following the treatment. In the light of later experimental work, I believe the conclusion is justified that his results were probably due to the effect of the treatment on the spleen. Dr. Lane, after injecting rabbits with washed red blood cells of the sheep, found that following splenic treatment of these injected animals there circulated in their blood an increased amount of specific amboceptor for the sheep erythrocytes.

In 1932, Yale Castlio and myself, with the cooperation of the Kansas City College of Osteopathy and Surgery and the Lakeside Hospital, undertook a series of two hundred experiments to determine the specific effects of direct splenic treatment on the cells and the antibody content of the blood. This work was completed in 1934. The first series of one hundred experiments was done upon normally healthy individuals, and a report[3] made in October, 1932. The second series of one hundred experiments was made upon patients acutely ill with infectious diseases, and the report[4] made in July, 1934. Both the technic of the stimulation and the method and intervals of blood specimens taken were essentially the same for both groups of experiments. Alternate compression and release of the tissues overlying the spleen in front and behind was the treatment used, five minutes being the length of treatment to the normal individual in the first series, while in the second series, the treatment varied from two and one-half to five minutes, at the rate of twenty compressions to the minute. The subject lay on his back with the knees flexed. In each experiment blood was secured from the individual a few minutes before treatment and additional samples at two intervals after treatment. While no consistent results were expected from normal individuals, those actually obtained were almost identical with the blood reactions in those patients suffering from acute infections.

In each of the two groups of one hundred, a red and a white cell count was made three times; three differential counts were made in each of twenty-five cases of the normal subjects, and the same in fifty cases of the acutely ill. In twenty-five of each, opsonic index determinations were made. In the second series, three Arneth's index determinations and three reticulocyte counts were made on each of fifty cases; also the agglutination power and the amboceptor content of the serum tested in each of twenty-five cases.

In normal individuals the effects of splenic stimulation were as follows:

1. An increase in the leukocyte count at end of either or both of the first and second intervals in a total of 81 per cent of the cases, and a decrease in 19 per cent. The increase averaged 1,996 cells per cubic millimeter of blood; and the decrease averaged 2,333 cells per cubic millimeter of blood.

2. An average increase of 7 cells in the polymorphonuclear leukocyte count in 76 per cent of the cases; and an average decrease of 5 cells in 24 per cent of the cases.

3. An average decrease of 726,000 red cells per cubic millimeter of blood in 76 per cent of the cases; and an average increase of 760,000 cells in 24 per cent of the cases.

4. An average increase of 0.498 or nearly 50 per cent in the opsonic index in 84 per cent of the

*Delivered before the General Sessions of the Thirty-Ninth A.O.A. Convention, Cleveland, 1935.

cases; and an average decrease of 0.377 in 16 per cent of the cases.

As stated previously, a complete report[4] of the effects of direct splenic treatment in acute infectious diseases was made in July, 1934. The conclusions arrived at and set forth in that article were as follows:

"1. An increase in the leukocyte count in about 80 per cent of cases, averaging approximately, 2,200 cells.

"2. An increase in the percentage of polymorphonuclear neutrophils in about 75 per cent of cases, averaging approximately 7 cells per one hundred.

"3. An increase in the relative number of mature neutrophils in about 80 per cent of cases.

"4. A decrease in the erythrocyte count in about 76 per cent of cases averaging approximately 600,000 cells.

"5. An increase in the relative number of reticulocytes in about 80 per cent of cases.

"6. An increase in the opsonic index of the patient's serum in about 95 per cent of cases, in the agglutinative power of the serum in about 80 per cent, and in the bacteriolytic power in approximately 90 per cent."

I believe we may assume that the first three results may be ascribed to a contraction of the spleen with expulsion of its contained leukocytes. In addition, an increased rate of leukocyte formation may also play a part.

I believe the fourth and fifth results may be attributed to an increased rate of erythrocyte destruction by the spleen due to alteration in its circulation. Possibly an increased rate of reticulocyte liberation by the bone marrow (stimulated by the increased amount of iron liberated as a result of the destruction of erythrocytes) or even by the spleen, may be a factor.

The results listed under the last heading are more certainly due to contraction of the spleen with expulsion of its contained antibodies. It is probable that there occurs also an increased antibody formation due to more antigen-containing blood passing through the spleen, where it stimulates such a reaction.

INDIRECT SPLENIC TREATMENT

It was with great interest, then, that the series of experiments concerning indirect splenic treatment was undertaken. And with interest do we study the results, and consider the terminology to be used in reporting them. The difficulties of interpretation of results obtained by manipulative treatment to the spinal column were exemplified in a recent article[5] by Yale Castlio. Let me quote a few paragraphs from this article:

"Every organ in the body is connected by demonstrable nerve paths with spinal cord segments and lateral chain ganglia. Every part of the soma is also and similarly connected. These nerve paths have to do with the functional regulation of the tissues they supply.... Nearly all viscera receive a dual vegetative innervation and, when this is the case, the functions of the two sets of nerves are always opposed. . . . Various manipulative procedures have been found to produce, at times, certain visceral responses. Certain definite nervous relations, commonly called viscerogenic reflexes, have been found to obtain between one viscus and another, and between a given viscus and definite somatic segments. . . A spinal segment or a vegetative ganglion functions according to the sum of the stimuli it receives from all sources.

"It is not difficult to separate the facts from the theory. The theory [manipulative treatment employed commonly by osteopathic physicians for stimulative or inhibitory purposes] is attractive and plausible. . . . [However,] there is not a single well authenticated series of cases showing that it does [work]. Occasional brilliant results, exactly in conformity with the theory, are not uncommon, but failures are even more frequent.

"There are quite a number of reasons why they should be. Among these are the inertia offered by normally functioning organs to other than strong stimuli; the susceptibility of over or under active organs to change in only one direction [toward the normal], the role of influence other than nerves . . . in the functional behavior of a viscus, the overlapping of visceral regulatory functions in a given group of cord segments, the misconception [of the meaning of] the term 'osteopathic spinal center,' and the . . . ignorance of . . . [many osteopathic physicians] regarding the exact origin, distribution, and function of the visceral nerves."

It was to solve this problem that this last series of experiments was undertaken. The general plan of study was much the same as that followed in the direct treatment series, i. e., the determination of the specific effects on the cells and the antibody content of the blood. We have as yet a series of only twenty-five cases, a number, however, which is sufficient to cast some light on the possible effects which follow this type of treatment. In the investigation of a subject which manifests so many ramifications, it is impossible, without extensive facilities, to carry on this work in the finest detail, and through the thousands of experiments which would be required to give true accuracy. It has not been our object so much to attempt these things, but rather to throw some light on this work commenced by our distinguished predecessors, Drs. Whiting and Lane, to point the way for future work, and at the same time to reassure those in the profession whose doubting minds cannot hurdle the maze of erroneous "old school" information of today, and show them that osteopathic manipulation is not merely the "pursuit of the snark," but that clinically it is a therapeutic procedure for which no other can be substituted. We would welcome reports of additional work along this line by others, which would prove or disprove our more or less tentative conclusions.

These experiments were performed on twenty-five supposedly normal individuals, and while, no doubt, some of them had foci of infection (though not to their knowledge or ours) their state of health was certainly above the average. Most of them were osteopathic college students, or members of osteopathic families. While no conclusive results were expected from these normal individuals yet

TABLE NUMBER 1
ACTUAL LEUKOCYTE COUNTS

Case Number	Before Treatment	Fifteen Minutes After Treatment
1	5,700	4,500
2	6,000	4,050
3	7,200	6,900
4	10,450	6,750
5	6,550	5,550
6	4,950	5,300
7	5,250	5,100
8	8,050	4,950
9	7,150	7,850
10	9,100	8,900
11	4,850	7,250
12	6,250	7,000
13	6,850	6,350
14	7,400	5,350
15	14,050	10,050
16	6,300	6,250
17	5,700	4,900
18	7,400	7,500
19	3,400	6,900
20	8,250	9,100
21	7,400	5,350
22	6,300	7,600
23	8,150	6,900
24	8,950	8,450
25	8,050	4,650

TABLE NUMBER 2
ERYTHROCYTE COUNT

Case Number	Before Treatment	Fifteen Minutes After Treatment
1	4,590,000	5,050,000
2	2,740,000	3,270,000
3	4,500,000	4,350,000
4	4,440,000	4,370,000
5	4,530,000	4,320,000
6	4,510,000	3,910,000
7	4,270,000	4,010,000
8	4,950,000	4,170,000
9	3,910,000	4,050,000
10	5,550,000	4,660,000
11	3,730,000	4,370,000
12	4,570,000	4,330,000
13	5,080,000	5,350,000
14	4,650,000	3,850,000
15	4,350,000	3,790,000
16	4,640,000	4,470,000
17	5,060,000	4,560,000
18	5,980,000	5,480,000
19	4,690,000	5,170,000
20	3,820,000	4,470,000
21	3,910,000	4,540,000
22	3,900,000	3,600,000
23	5,120,000	4,590,000
24	4,980,000	4,580,000
25	4,850,000	4,190,000

TABLE NUMBER 3
DIFFERENTIAL LEUKOCYTE COUNT

Case Number	Before Treatment	Fifteen Minutes After Treatment
1	66-32-2	61-32-7
2	61-35-4	71-21-8
3	80-17-3	69-27-4
4	56-41-3	56-34-7
5	74-24-2	69-29-2
6	70-30-0	75-21-4
7	66-30-4	59-40-1
8	61-38-1	54-46-0
9	55-43-2	51-47-2
10	73-27-0	72-28-0
11	60-38-2	54-44-2
12	54-44-2	60-35-5
13	63-33-9	59-39-2
14	75-23-2	76-23-1
15	67-30-3	60-39-1
16	73-26-1	72-27-1
17	74-25-1	69-30-1
18	54-42-4	60-37-3
19	52-42-6	67-30-3
20	76-18-1	73-20-7
21	62-37-1	74-25-1
22	77-21-2	74-24-2
23	55-38-7	45-52-3
24	63-34-3	59-38-3
25	73-27-0	70-28-2

The first figure in each of the series of three above represents the percentage of polymorphoneuclear neutrophils, the second the percentage of lymphocytes, and the third the percentage of endothelials, eosinophils and basophils combined.

TABLE NUMBER 4
AGGLUTININS

Case Number	Before Treatment	Fifteen Minutes After Treatment
1	Positive 1/5	Negative
2	Positive 1/5	Positive 1/5
3	Positive 1/5	Negative
4	Positive 1/10	Positive 1/5
5	Positive 1/20	Positive 1/20
6		Negative
7	Positive 1/50	Positive 1/30
8	Positive 1/50	Positive 1/50
9	Positive 1/50	Positive 1/50
10	Positive 1/50	Positive 1/40
11	Positive 1/40	Positive 1/40
12	Positive 1/40	Positive 1/50
13		Negative
14		Negative
15	Positive 1/40	Positive 1/20
16	Positive 1/20	Positive 1/10
17	Positive 1/40	Positive 1/40
18	Positive 1/40	Positive 1/40
19	Positive 1/50	Positive 1/50
20	Positive 1/10	Positive 1/5
21	Positive 1/40	Positive 1/30
22		Negative
23		Negative
24	Positive 1/20	Positive 1/30
25	Positive 1/50	Positive 1/40

The colon bacillus was used throughout this series.
Graduated dilutions of serum with salt solution were made from one-fifth to one-fiftieth.
The fractions in the table above indicate the highest dilution at which agglutination occurred.

evidence was obtained, though not so striking as in the former experiments, that point to certain splenic activities following this type of stimulation.

The technic used was comparatively simple. The patient lay prone, and rapid percussive blows with alternate fists of the operator were applied on the tissues immediately to the left of the third to the tenth spinous processes of the thoracic region for one minute. In each experiment, blood was secured from the individual a few minutes before treatment, and after an interval of fifteen minutes immediately following the treatment. Only one sample of blood was taken after treatment in this group because we felt that results observed following direct treatment gave us a clue to the time of maximum results following manipulation, and it was useless, in view of our primary purpose, to go on with multiple readings in each of these cases. In future groups in this same series, we intend to vary the interval between treatment and time of taking specimen, to be more nearly certain of the maximum amount of result.

In each of the twenty-five experiments, white and red cell and differential counts were made, and the serum of each individual was tested for agglutinating power—all of this both before and after treatment. The results were as follows:

On leukocyte counts: (Table Number 1)

1. An average increase of 2,250 cells per cubic millimeter of blood in 32 per cent of the cases.

2. An average decrease of 1,600 cells per cubic millimeter of blood in 68 per cent of the cases.

On erythrocyte counts: (Table Number 2)

1. An average increase of 468,000 cells per cubic millimeter of blood in 32 per cent of the cases.

2. An average decrease of 450,000 cells per cubic millimeter of blood in 68 per cent of the cases.

On differential leukocyte counts: (Table No. 3)

1. An average increase of seven cells in the polymorphoneuclear neutrophil count in 32 per cent of the cases.

2. An average decrease of five cells in the polymorphoneuclear neutrophil count in 68 per cent of the cases.

On the agglutination power: (Table Number 4)

1. An increase in agglutinins in no cases.

2. No agglutination whatsoever in 20 per cent of the cases.

3. No change in reaction following treatment in 36 per cent of the cases.

4. Decreases in the agglutinating power of the serum following treatment in 44 per cent of the cases.

Before considering the possibilities as to what

may have occurred as a result of the treatment, it is necessary to consider what vegetative nerve supply arises from the region treated, and its effect on splenic function.

The spleen is innervated by sympathetics arising from thoracic segments from the third to the tenth. White rami communicantes terminate in the semilunar ganglia, and from there gray rami fibers are distributed with the splenic arterial vessel to the splenic pulp proper, as well as to the capsular arterial supply. Over this sympathetic supply, then, impulses are carried which cause vasoconstriction, with retarded metabolism, and it is presumed inhibition of the various functions carried on by this organ. Since we know that there is a continuous stream of impulses transferred from sensory spinal nerves to connector neurons of the sympathetic system, which in turn are expressed by reflexes in viscera supplied by these same neurons, we may conclude that any exaggeration of these same impulses or the introduction of more forceful impulses to increase normal reflexes, would in turn exaggerate the normal effect which arises under the particular guidance of these same reflexes. That reflexes have greater distribution in body tissues at certain times than at others, is accounted for by the passage of stronger stimuli; thus the efferent impulses are transferred to more neurons, with the resultant greater circumference of reflex response.

We may well presume, then, that with forceful enough percussion to that region of the back from which efferent fibers pass to those segments of the cord from which arise the white rami, which in turn pass impulses to neurons of the sympathetics supplying the spleen, the response to such stimulation, if it may be called that, would result in exaggerated sympathetic function, i. e., inhibition of the various activities of this viscus.

This points to a common source of error in connection with the application of manipulative treatment. The method too often used for such indirect treatment to the various organs as was here directed to the spleen, has been about this: The spinous processes are located, and the various types of so-called stimulation or inhibition applied to the tissues on either or both sides of the processes corresponding to the cord segments which supply the particular viscus to be affected. This erroneous method of locating the site for the application of indirect treatment should be corrected in the minds of many of our practicing physicians. It is well to recall Chipault's rule[6] for the location of the various spinal cord segments according to the spinous processes, as follows: "In the cervical area, add one to the number of the vertebra, and this will give the segment opposite it. In the superior dorsal add two, from the sixth to the eleventh, add three. From the eleventh, and the interspace below, these are opposite the lower three lumbar segments. The twelfth interspace, and the first lumbar are opposite the sacral segments." Treatment, then, should be applied to the regions of the spine, the efferent fibers arising from which will refer the impulses to the segments of the cord which we wish to effect. It must be remembered that it is highly improbable that the ganglia themselves are affected, but probable rather that results occur through nerve paths stimulated by impulses set up at the origin of the efferent fiber.

If treatment is to be directed to paravertebral structures, as in our experiments, rather than to the vertebrae themselves, still other considerations govern. Tissues surrounding the third to the tenth thoracic vertebrae are said to carry efferent fibers to those particular segments, although the location of these segments would be beneath surface markings of the first to the seventh spinous processes. Such indirect organ treatment, therefore, should be applied with all due regard for origin and communication of efferent fibers stimulated, and the reflex paths they create.

Thus it will be seen that if stimulation is applied in the region which we treated, it should theoretically, through influence of the sympathetics, bring about inhibition of the splenic function, or in other words should result in:

1. Dilatation of the splenic capsule, with decrease of blood volume in the general circulation. Since both leukocytes and antibodies are presumably stored in the splenic pulp, this in turn might cause,
   (a) Decrease in actual leukocyte content in the blood stream.
   (b) Decrease in the antibody content of the blood.
2. Decrease in rate of red cell destruction.
3. No apparent change in type of leukocyte, for presumably decrease in blood volume should affect only quantity, not quality of cellular content.
4. Decrease in the manufacture of antibodies, which is assumed to occur, particularly in the presence of the acute infection.

Comparing the actual results we secured, with the postulated results just outlined, some variation is seen. It is granted, however, that in so small a series there is more opportunity for error, and that fallacious interpretation may result. The spleen being a reservoir for excess leukocytes, and splenic dilatation presumably having occurred in 68 per cent of the cases treated, it seems evident that some influence was exerted by sympathetic stimulation. This organ is capable physiologically of either contraction or dilatation in response to the particular need of the body, and it is altogether possible to believe that in the other 32 per cent of the cases, in which an increase of leukocytes occurred, there was present splenic contraction which occurred as a result of indirect stimulation—in turn increasing the amount of actual white cells within the blood stream. The reasons for stimulation in some cases and inhibition in others may come out as a result of more extensive work. The average increase in these cases was close to that obtained in the series where direct treatment was applied to the spleen, the increase being 2,250 cells as against 2,377 indirect treatment. The increase in leukocyte count resulting from indirect treatment (1,600) was much less than the decrease (2,409) resulting from direct "stimulation" (so-called). I believe that this fact may be explained by the lessened amount of stimulation applied, the force of splenic dilatation always

being less than that of contraction except in cases of emergency such as severe hemorrhage.

The results obtained in the red cell counts were peculiarly like those of the white cell counts, increases and decreases respectively being found in the same percentage of cases. Theoretically, one would expect inhibition of red cell destruction, and thus increase in the erythrocyte count, following the stimulation of sympathetic centers, because this would bring about inhibition of spleen function. However, in normal individuals, one could hardly expect so definite a response in normally functioning organs, or more harm than good would be done in too many cases, with all the atavistic and degenerate manifestations of Dr. Still's original teachings which are so often seen. It seems to me that the most likely interpretation of the decrease in the cell counts found in 68 per cent of individuals was a matter of splenic dilatation only, resulting in an increase in circulation through the spleen, and hence a relative decrease of both types of cellular content of the blood stream. This would mask the possible decrease in the rate of destruction of the reds.

The results obtained with the differential counts were similar, the percentages of decrease and increase being the same as in the actual counts, i. e., a decrease in the polymorphoneuclear neutrophils in 68 per cent of individuals, with increase in 32 per cent. Here our explanation of splenic dilatation occurring in the greater percentage is not plausible, for theoretically the relative number of this type of cell would remain the same. However, with dilatation of the spleen, in the meshes of which white cells are normally stored for case of sudden demand (and presumably these phagocytic cells are particularly of the kind desirable for this emergency), it is possible to suppose that the increase in actual tissue space might explain the relative decrease in the polymorphoneuclear neutrophils in the general circulation following such dilatation.

The results obtained by agglutination tests made before and after indirect treatment showed no appreciable or interpretable amount of change. It is suggestive, however, that in 44 per cent of cases there was a decrease in the agglutinating power of the serum, a decrease which is unexplainable on any other basis than splenic dilatation since this peculiarly individual activity of the serum is specific, and should be fairly stable under normal circumstances.

The above results, we believe, are not definite enough to permit us to form final conclusions, and yet they are suggestive of certain occurrences which need a more thorough investigation, conducted over a period of time and with large enough series of individuals and variations of cases both normal and acutely ill to give a more accurate picture.

We have reason to believe that manipulative stimulation and inhibition can be effectively performed with, of course, the limitation of individual variation, which reduces the exactness of all therapeutic application in all human individuals.

There is much to be done yet along this line. We propose at the earliest opportunity, to increase the number of this first series of indirect treatment, to one hundred normal persons, embracing, besides the work demonstrated, vital staining of red cells, Arneth's index determinations, and determinations of antibodies, such as bacteriolysins, antitoxins, and opsonins. This same type of work is to be done also on a reasonable number of individuals suffering with acute infectious disease. It is hoped that by next year a report of such completed work will be ready for practical application by practicing osteopathic physicians.

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Radiotherapy*

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The instrumentality commonly known as short-wave and ultra-short-wave therapy is the direct outgrowth of modern radio engineering development. It seems, therefore, appropriate and convenient to style this new modality by the above title, as embracing the entire Hertzian spectrum available for this purpose, where the electrical frequencies employed lie well above those useful in the older diathermy (one half million to two million per second) and below those of the so-called microwave lengths, of less than one meter (frequencies above 300,000,000 per second).

For in diathermy the frequencies employed are too low to make possible radiation of any useful amounts of energy from the applicator electrodes. As a consequence we have there only true conduction currents, whose frequencies, while high enough to insure against any harmful electrolyzing effects in the body, are yet far too low to be classed as condenser currents, capable of inducing within the member placed between the electrodes (assuming these to be insulated from the body) "electric displacement" currents possessing the slightest therapeutical values.

The range of frequencies, usefully available for inducing within the living body, placed between two condenser electrodes, corresponding high-frequency currents of useful volume, lies, approximately, between 300 and 6 mega-cycles (millions of oscillations per second). Or in other words, these oscillations have a wave-length range lying between 1 and 50 meters. Empirically for convenience this range has been divided into two classes, the so-called "short waves," for all those lying between 50 and

*Delivered by W. Curtis Brigham, D.O., before the Physical Therapy Section at the Thirty-Ninth A.O.A. Convention, Cleveland, 1935.

10 meters; and the "ultra-short" waves, lying between 10 and 1 meter.

The radiotherapy emitter is in fact nothing more than a short-wave radio transmitter. The output (applicator) circuit is the equivalent of the antenna radiating circuit of a radio station. Such an emitter, if connected to an antenna of the proper design, would serve admirably as a 250-watt radio telegraph transmitter operating on 18 meters.

We merely bring the "antenna" (represented by one applicator pad and its cable) over into close proximity with the "earth" (here represented by the other applicator pad). Then one lies down upon the "earth," with the "antenna" pad resting above the body; and the identical lines of electric force which constitute the "Hertzian waves" in radio telegraphy, instead of flying out through space to the ends of the earth, are concentrated into a bundle of lines, which tread back and forth through the body 16 million times per second and, by setting up both resistance currents, and especially the so-called displacement currents within the tissues of the body, produce instantaneous heating and other physiologically important effects throughout the depth of the body thus irradiated.

During the thirty-year interval between d'Arsonval's[1] classic experiments and the modern application of contactless electric therapy, the now venerable modality universally known as diathermy was developed, using spark-gap discharge generators and damped oscillations of the order of one-half to two million cycles. The passage of these damped oscillatory currents through the body, far too low in frequency to radiate from the conductors used to be correctly styled electric "waves," produced heating effects varying in depth according to the nature of the various tissues traversed.

In any historical resumé there must be cited the important researches of that skilled physicist, Esau[2], whose classic demonstration in 1925 of the so-called selective effects of short-wave oscillations upon heterogenous solutions and emulsions offers a tangible explanation of many of the remarkable biological effects since observed. Esau made an emulsion of paraffin oil and alkalinized (electrically-conducting) water. A test tube of this mixture when placed between the two plates of a condenser connected in a high-frequency circuit begins to boil with escape of steam when at temperatures of only 60 to 70 degrees centigrade.

This surprising phenomenon, sometimes called "point-heating," clearly demonstrated that the water droplets, obviously heated to 100 degrees, were selectively acted upon by the high-frequency currents induced within the mixture, while the non-conducting paraffin, not so heated, served to keep down the average measured temperature. The far-reaching biologic significance of this and many similar subsequent investigations by Pätzold[3] and others following Esau will at once be appreciated. It is clearly apparent, then, that many unexpected and otherwise inexplicable physiologic effects may be encountered when we administer by means of short and ultra-short waves heat generated directly within the human tissues themselves.

It has been abundantly demonstrated by numerous medical investigators that there exists a fundamental difference in the thermic and biologic effects obtained with wave lengths above 30 or 40 meters and those using wave lengths below 20 meters. Schliephake[4] lists four properties applying to ultra-short waves which in his opinion entitle us to regard this therapy as a distinct type. These are:

1. Special nature of the thermal action, which directly affects the smallest particles.
2. Localized depth effects.
3. Selective thermal action.
4. Specific effects on colloids.

These selective effects are explained simply by the different distribution of the heat. But in addition there are selective effects the causes of which are not as yet exactly known. These latter are observed only with exceedingly short waves; for example, in Reiter's[5] experiments with rats, on so-called sarcoma transferable by inoculation, where a definite selective influence on these cells obtained with $\lambda = 3.40$, while other wave lengths were much less selective. Schliephake and Haase[6] showed a relationship between the time in which these bacteria perished and the wave length employed, but no absolute values; results which were confirmed and expounded by Liebesny[7]. According to the last named there is for every type of bacteria a definite wave length which most quickly destroys it.

Many other laboratory investigators, however, have been unable to obtain any definite lethal or germicidal action of short or ultra-short radiation upon a wide variety of bacteria in various cultures while in vitro, even when large amounts of energy are utilized, short of obtaining solution temperatures which are known as definitely fatal to such microorganisms.

Yet the large and steadily increasing number of authentic cases now on record where such lethal or bacteriostatic action has been definitely obtained in animal and human patients proves beyond doubt that at least the high-frequency currents induced within the cells, veins, and tissues increase the rate of those chemical and biologic processes concerned with the development of immunity and with the general defenses of the organs against infectious agents.

It is well demonstrated that in addition to some possibly favorable electrical influence on focal sepsis, we are able now to develop sufficient heat, controlled as to locale, degree, and time, to actually destroy many types of bacteria. The localized controlled tissue hyperaemia associated is more beneficial than that heretofore possible by any physio- or hydro-therapeutic procedure.

The short waves here generated have a warming action on organic tissue, but as above stated there may be very probably also a specific electrical action on the living protoplasm, due to the discharge of the minute electrical charges induced therein at the rate of many million times a second. This discharge apparently involves the single molecules and cell combinations. Inasmuch as the veins contain the conducting carbonates of the blood stream, it is reasonable to assume that these vessels convey the major portions of the high-

frequency electric currents. This results in a dilatation thereof, with enhanced circulatory activity in these vessels.

The use of these high-frequency modalities, it is believed, stimulates the elimination of carbon dioxide, with disintegration of the calcareous deposits on the arterial walls. Veins contain the conducting carbonates, thereby offering preferred paths for the high-frequency currents. Venous congestion, even when deep-seated, is relieved because of this marked activity of the arterial circulation. The result is relief of venous and visceral congestion. On this account, as well as from the internal heat generated, short-wave therapy is generally indicated whenever there is infection, congestion, or suppuration. Its effects on inflammatory and purulent processes can no longer be questioned.

Moreover, inasmuch as the nerves are preeminently conductors of electric currents, there can be no doubt that these play a very important, although as yet little understood, part in the general results observed from short-wave therapy. It is quite probable that much of the prompt sedative effects here observed are due directly to the traverse of the nerve channels by, and their reaction to, these high-frequency currents. Here would appear to be a most fertile field for neurological research.

The generally analgesic and palliative properties of radio-frequency irradiation, especially in all forms of upper respiratory disease and in acute nasal sinusitis, have been repeatedly proven.

It has now been abundantly demonstrated that irradiation at all wave lengths from 3 to 18 meters may remedy pathologies caused by gonococci and also staphylococci, with perhaps more rapid results with the higher frequencies.

Moreover, the remarkable and unquestionable results so frequently observed in treatment of a variety of human ailments become progressively more persuasive that we have here an actual specific electric effect, quite distinct from, and independent of, any heat effect; that the moderate heating effect is frequently incidental and immaterial; that it is in many (by no means all) cases a concomitant result, and ***not a cause*** of the beneficial effects observed when parts of the living body are irradiated by short and ultra-short radio waves.

I know of no greater authority today in this relatively new field of radiotherapy than is Paul Liebesny, head of the physiotherapy division of the General Hospital of Vienna. As the result of his intensive researches with, and continued application of, radiotherapy to a great variety of cases in every stage of involvment over a period of four years, Liebesny[8] emphatically goes on record as convinced that the internal heating effects produced by such irradiations are to be in every case ***minimized*** as far as it is possible so to do.

"For this therapy it is important," says he, "especially in involvments of bacterial origin (the main indication field for ultra-short wave therapy) to strictly avoid noticeable heat effects. I have consistently represented as fundamental that with short-wave therapy, especially in acute inflammatory ailments, neither diathermy, nor any heat therapy may be applied, and have directed our irradiation technic and dosage accordingly. Our therapeutic results which we have attained with this short-wave irradiation in acute inflammatory and vascular diseases have demonstrated the correctness of our viewpoint, as indeed do the frequently poor results of those authorities who consider heat effects of short-wave treatments as the aim and object of this method."

When employing not merely ultra-short-wave radiations, from 4 to 8 meters, but even with the more generally applicable, less specific wave length of 15 meters, Liebesny, Groag,[9] Schliephake, and most Continental authorities advocate separation distances of 2 to 20 centimeters, preferably employing glass and open-air dielectrics instead of rubber, felt, and the like. Thereby the patient experiences little surface heat sensation, and frequently therefore is under the erroneous impression that he is not being sufficiently treated. However, the almost unbelievable results recorded by these learned and well-skilled authorities, in numberless cases of lung and pleural abscess, empyema of the ethmoid, diseased gallbladder, infected kidneys, prostatitis, gonorrhea, arthritis, eczema, always treated so as to avoid any notable rise of temperature, seems convincing evidence that the undoubtedly great benefits attained are not primarily the result of heat generated within the tissues.

Here in America, on the other hand, the tendency hitherto has been to depart as little as possible from the orthodox teachings and technic of diathermy, placing thinly insulated electrodes directly upon the flesh, or at least directly upon the clothing, and regulating the dosage up to the limit of tolerable heat. Such technic is advisable only where skin or subcutaneous affections are involved; and even here it is questionable whether the heat thus generated in the surface regions, being largely the result of current resistance as in diathermy, is not chiefly a parasitic accompaniment and detriment to the curative processes which may be designated, for want of a better understanding, as "specific biologic effects" of the internally induced "condenser currents." In short, as Kobak[10] forcibly puts it, "the effects produced by a proper technic of condenser electrode application are the very balance between dramatic and indifferent results. This fact cannot be stressed too strongly."

To my mind it is this prevalent reversion to diathermy technic, as distinguished from correct radiotherapy technic, this fixed idea of heat and only heat penetration, this blindness to the difference between conduction and condenser electric currents on the part of certain self-assumed authorities in this country, which make possible today official, palpably biased, "reports" which damn with faint praise radiotherapy in general; publish as "contra-evidence" pictures of burned insulation (!); deduce from mere temperature measurements on anesthetized dogs and human thighs close-coupled to the electrodes that there exists "no specific biologic action of high-frequency currents" which they still define as "short-wave diathermy."

In this connection let it be recalled that the now-orthodox diathermy was "nonaccepted" until quite recently; also that even today certain cults

are devoted to the proposition that the earth is flat.

Such presumably accurate temperature probes and measurements as those to which I have just referred would in all logic seem to be weighty evidence pointing to the probability that the ever rapidly accumulating records of healing attributable to radiotherapy can by no means be explained on the theory that heat, either surface, depth, or point heating, is fundamentally their cause. For certainly no other heat agency, whether of hydrotherapy, electric pads, infra-red radiation, or diathermy, can claim effective benefits in certain of the pathologies above cited. And in many cases, such as carbuncles, abscesses, sinusitis, arteriosclerosis, where overwhelming evidence of benefit by radiotherapy has been for the past four years available, heat is emphatically contraindicated, or without benefit.

However a general survey of the now proven indications for radiotherapy seems more convincing than are any chemicobiologic considerations—that we deal here with an agency fundamentally differing from thermotherapy.

With the discovery of any new therapeutic modality, especially of the physical type, there usually results a zeal to widen as far as possible the indication range. It should, however, be more correct first to restrict as rigidly as possible the field of application of the new adjuvant, and to build upon an experimental basis.

We have today, five years after Schliephake had founded modern short-wave therapy, proceeded sufficiently far to be able to say, in part with certainty and in part with probability, in which types of illness radiotherapy excels any other therapy, where it accomplishes no more than other methods, and where it, in its turn, must be considered as contraindicated. The range of diseases wherein short-wave therapy is of surpassing value is by no means small. One should, however, resolutely avoid the position that radiotherapy is a panacea, from which only discredit of this new modality would result.

However, today we are well justified in considering radiotherapy indicated in many conditions inaccessible with diathermy. To quote Kobak[11]: "Acute inflammatory and purulent conditions, whether [confined] or not, readily yield to condenser fields of definite wave lengths. Approximately the 12 to 3 meter lengths are best suited for endothermic and selective, and the 30 to 12 meters for diffuse thermic effects. The shorter the wave length, the greater its influence on electrolytes, bacteria, and colloid phenomena.

"The principal indications for radiothermy are virtually all affections for which diathermy has proved effective. In addition radiothermy is capable of producing hyperemia of osseous structures. It has much deeper heat effects than diathermy and is therefore the method of choice in deep-seated inflammatory processes. Its striking and revolutionary indication is its favorable influence on suppurative processes for which diathermy is distinctly contraindicated.

"Inflammatory and purulent processes, such as carbuncle, furuncle, hidradenitis, suppuration of the antrum, ethmoid, sinus, and chest, certain forms of arthritis (acute and specific), tenosynovitis, and "algias" in general have often been speedily relieved with short-wave radiothermy.

"Bone and joint suppurations, including tuberculosis, duodenal ulcers, peritoneal inflammations and resulting adhesions, perityphlitis, and periproctitis (Halphen and Auclair), have already been studied clinically with favorable results. Schliephake has reported the specific effect of radiothermy in cases of pulmonary abscess, which ordinarily have an associated mortality of 60 to 70 per cent when treated medically, and of about 40 per cent with surgical intervention. Of 25 patients treated by him in the Rudolph Virchow Krankenhaus in Berlin, all were [reported] cured without operation. Liebesny[8] concluded that short wave therapy is indicated in paronychia, abscesses of the sweat glands, carbuncles, phlegmons, erysipelas, sinus infections, tuberculous joints, arteriosclerotic gangrene, and Raynaud's disease. The list is by no means complete, but the clinical results point so strongly toward [radiotherapy] as an agent of great potentiality that the future may raise it to as distinct a discipline in therapeutics as is now roentgenotherapy."

For the past ten months one to five 18-meter short-wave therapy emitters have been in constant daily use at one of the larger United States Government hospitals. Recently the authorities there consented to disclose a most interesting and significant report on some of the cases there treated. This report, covering 140 cases, comprises a varied category of ailments: chronic arthritis, (joints of the feet, knees, shoulders, and arms, sacroiliac and lumbosacral joints), neuritis, laryngitis, post-fractures, sprains, prostatitis, epididymitis, sinusitis, dislocation, Buerger's disease, etc. The results in 70 per cent of these cases are reported as "excellent" or "good," the remainder "fair," "poor," or "inconclusive"; a record for short-wave therapy which, I think, abundantly demonstrates its efficacy. Its use at this hospital has already saved to the service a very great number of otherwise incapacitated hours, not to mention the relief from pain involved.

Reports received from other hospitals, clinics, and physicians' offices where such portable short-wave therapy emitters have now been in use for many months, aggregating hundreds of cases and thousands of hours of treatment, are of similar tenor.

Local physicians report most gratifying results in reducing high blood pressure, and have cleared cases of exceedingly severe and unfavorable kidney involvement.

Liebesny, in his very recent compendious work, "Kurz—und Ultrakurzwellen Biologie und Therapie," records with great detail and impressive photographs, progressive improvement effected by this therapy in advanced cases of facial furuncles, thrombosis, large septic carbuncles, hydroadenitis, severe chronic sepsis, osteomyelitis, actinomycosis.

Based largely upon the numerous observations and experiments of European investigators briefly summarized above, I came to the deliberate selection of a wave length of approximately 18 meters,

as affording an irradiation generally suitable to the practicing physician for the great majority of cases where short-wave therapy would be indicated. For this frequency was proven sufficiently high to have complete penetrative effects throughout the human body, at the same time to lie well out of the ultra-short-wave spectrum, where specific, concentrated heating of certain organs or tissues might, unless irradiated with extreme care and skillful technic, result in harmful effects unappreciated at the time. (Schliephake and Liebesny used chiefly 14 and 15 meters, wave lengths selected from wholly practical considerations.)

As an incidental practical advantage of the wave length chosen, and as a result of proper methods of coupling and correct designing of the oscillatory circuit, it is not necessary now to narrowly limit the length of applicator cables, which may thus be sufficiently long to provide utmost facility in treatment. Five-feet cables are supplied. The flexible metal electrodes are of course completely encased in rubber pads. These are of a variety of sizes and thicknesses.

Unipolar treatment, using only one applicator on the body, the other connected but lying idle on a table, is thereby perfectly feasible, and is recommended where a minimum of irradiation is desired. One large and one small applicator may be used if desired.

Operating at the frequency or wave length selected, we have found a maximum radio frequency of 3,000 to 4,000 milliamperes to be sufficient for all purposes. Actually with 18 meters, one will rarely use a current in excess of 2,500 milliamperes. The energy available in the secondary circuit should be sufficient to light a 300-watt incandescent lamp to full brilliancy.

A continuous radio-frequency output must be had with continuous heating effect if an immediate temperature equilibrium is to be reached in the tissues. This is possible only when rectified current is applied to the plates of the oscillator tubes. If alternating current, unrectified, were to be used, there would be 120 intervals in each second (two for each cycle per second) during which there would be no plate voltage applied. This means that 120 times each second there would be no radio frequency output, and, of course, no heat. The same objection holds to an even greater degree against spark-gap short-wave therapy instruments. One can readily see then the advantages of applying direct current to the oscillator plates, where time required for a treatment is to be economized.

For such processes as more readily respond to ultra-short-wave treatment (such as sinusitis, deep-lying abscesses, paradentosis, osteomyelitis, and the like) a 6-meter emitter using the same perfectly balanced circuit and rectifier tubes has been designed by the author. Also special instruments making available either 18 or 6-meter currents, merely by the throwing of a switch.

Notwithstanding what I have said regarding the reliability of the properly designed radiotherapy emitter and the simplicity of its modes of application, success in treatment with this modality by no means results from haphazard technic. Only by careful study of each individual situation, notably as regards the location of the applicator pads, their distance from the flesh, the dosage, duration of treatment, the strict avoidance of unnecessary heat effects, of point burns due to accumulation of sweat layers beneath the applicator pads, can be attained the brilliant results which ordinarily attend radiotherapy when properly applied. This truism cannot be too strongly emphasized.

Unipolar treatment also may be practiced when single orificial electrodes are used; the other (pad) electrode being then located away from the patient, but on a nonmetal surface; or this large electrode may be placed on a proximate part of the body, as the abdomen, if greater energy is required.

Vaginal and rectal electrodes are of metal, preferably completely encased in glass (for condenser capacity action) or a bare cylinder for actual contact with the mucous membrane, exactly as used in diathermal treatment, but with the lead-in conductor space-insulated from the tissues. The other applicator, or pad electrode, is usually placed above the abdomen. With such orificial electrodes bladder temperatures of 109 degrees or higher may be obtained within 20 to 30 minutes, without discomfort to the patient. This treatment, with short waves, is especially recommended for gonorrheal infections. A variety of specially designed electrodes are now available, as for treatment of the sinuses, ears, etc.

I know of no better, more clearly expressed, rules for applying radiotherapy than the following, presented by Kobak,[11] as a result of his careful and painstaking use of this modern modality during an extended period of time: (Author has abbreviated or amended these in a few details.)

RULES FOR APPLICATION

1. "Considering that in radiothermy the sensitivity of the patient to warmth is the sole reliable guide to the regulation of dosage, it is essential to examine each patient for normal sensitivity to heat and cold to exclude the presence of affections of the nervous system, which are characterized by loss of sensitivity, and to avoid the danger of producing burns.

2. "Each patient should be advised that the treatment must produce only moderate and pleasant warmth, and that the moment sensations of intense heat [or numbness] of a painful nature are experienced, he or she should at once report it to allow adjustment.

3. "Care must be taken when treating regions in which the bones lie close under the skin. Here the patients may complain of painful sensations instead of experiencing the pleasant warmth essential for success with radiothermy. This is known as periosteal pain. It is essential to at once switch off the apparatus and to await complete cessation of the unpleasant phenomena, after which treatment may be resumed with moderate dosage.

4. "Chairs or tables on which patients are placed for treatment must be free of metal parts. [This is of paramount importance].

5. "Oil cloth, art leather, old rubber mats, and any moist substance, all of which are so-called semiconductors, should not be employed as separator pads under any circumstances, not even with cover-

ing of nonconducting material. The principal reason is that semiconducting materials may become overheated and otherwise act like metals apart from deviating energy, which in turn would nullify the effects of treatment. [The electrodes must be kept at least a foot away from linoleum, concrete floors, partitions containing metal lath, and in short from any such metallic or semiconducting materials. Materials which are ordinarily not considered as conducting with low frequency currents may be highly conducting where short-wave and ultra-short-wave energy is applied.]

6. All connecting wires and other metallic appliances to secure the electrodes should be thoroughly insulated and kept at a considerable distance from the patient, for obvious reasons.

7. "To secure the proper depth effect, the distance between the electrodes and the skin should be not less than one [and frequently as wide as 20 centimeters,] the variation depending on the size of the electrode and [the output power of the apparatus]. As a rule the larger the electrode, the greater should be its distance from the skin.

8. "All felt pads used to produce separation of electrodes from the skin must be absolutely dry not only before but throughout the treatment. To prevent these pads from becoming moistened by the patient's perspiration, some cellular material, linen or similar material [such as cotto-cellulose] must be interposed between the skin and the felt pad.

9. "When it is desired to attain the maximum effect in treating the chest or the abdomen, the following rules, given by Fritsch, should be followed:

"'(*a*) Set the short-wave apparatus for maximum dosage by the proper skin-electrode distance, subsequent adjustments of dosage being made with the regulating devices of the apparatus.

"'(*b*) Maximum beneficial effect will be attained with an apparatus having the largest power, with the smallest intrinsic heating of the electrodes and their interposition materials (e.g., felt pads) employed to secure skin-electrode distance.'

10. "Remove clothing in all cases where a maximum effect is aimed at and considerable perspiration may be anticipated, as in the case when one makes use of large [power].

11. "[Unipolar] treatment having a lesser depth effect, is applicable when deep effects are not desired, e.g., when the head is to be treated and 'flooding' of the brain is to be avoided; or in treating superficial lesions in close proximity to bones, in which case the skin-electrode distance should not exceed [three-quarters of an inch].

12. "All electrodes should be larger in area than the diseased part to be treated, in order to stimulate the lymph current of the adjacent structures.

13. "During administration of treatments the physician should frequently ascertain by interrogating the patient whether the heat is felt at the proper place, and pleasantly. As the resonance indicator of the apparatus, unlike the ammeter on a diathermy apparatus, is NOT a reliable guide to dosage, and as patients frequently become dulled in sensitivity to intense heat after prolonged application, the physician must place his hand to the patient's skin from time to time to ascertain the degree of heating. *Use of any regulating appliances must never be entrusted to the patient!*

14. "Whenever it is desirable to concentrate the short-wave treatment towards one (active) electrode for the purpose of affecting superficial wounds, infections, or other lesions, the skin-distance of the active electrode should be somewhat less than that of the inactive electrode.

15. "As burns are more likely to appear where osseous structures lie close to the skin or where one encounters irregularities of contours, such as prominences in articulations, one should in all such places insure against such an accident by increasing the skin-electrode distance. Similarly one should not increase without control the dosage simply because patients state that they no longer feel warmth. As was pointed out in rule 13, patients become dulled to the sense of heat, and an unnecessary increase of dosage may lead to burns. In all such cases the resonance indicator is of relative value [only] as a guide.

16. "In the application of shorter wave lengths the physician should exercise special control and watchfulness, as one must not solely rely on the sensitivity of the skin to heat. Impairment of sensitivity even to a slight degree is always to be borne in mind. Undesirable complications are avoidable by care.

17. "In all cases affecting the head, especially when involving also the brain, individual reactions must be observed. Not infrequently patients complain of headache, dizziness, or other nervous phenomena, which dictate the usual precautions.

18. "In applications of radiothermy to patients suffering from heart disease, the same precautions must be taken as with any form of heat therapy, including diathermy. Watching the pulse will guard against mishaps.

19. "It is recommended that a neon light in working order be always at hand when administering radiothermy. Occasionally it may become necessary to determine proper resonance to check the proper function of the apparatus, or to correct some mechanical defect."

REPORT OF CASES

The following abstracts of case histories taken from a number of widely separated sources are illustrative of the very great number of striking therapeutic results obtained by radiotherapy in acute and chronic conditions, frequently where the usual established methods have failed. These reports are not intended to be complete case histories, space for which would require many more pages, nor is it deemed essential to explain the indications for, or results of, certain treatment given in addition to radiotherapy.

Case 1.—Female, aged 14 years, suffered an attack of acute rheumatic fever, followed by heart complications involving endocardium, myocardium and pericardium. De Forest 18-meter short-wave therapy was used. Eight treatments were given in all, two the first day and one each day thereafter. Length of each treatment was forty minutes and the milliamperage 3500. The rays were

directed through the heart, anteroposteriorly. After the fourth treatment, there was a sudden increase in symptoms, the temperature going to 104 F., but following this the child improved rapidly. At final examination no heart murmurs were detected, and the patient returned to school in good condition.

Case 2.—H. A. L. Hosp. Patient suffered acute arthritis of the left knee, right elbow, and right shoulder. Radiotherapy was administered, 1500 ma. for 20 min. Patient received twenty-four treatments from June 25 to July 25, 1934. Relief of pain followed first treatment. Swelling of the joints reduced gradually. Temperature was normal after the eighth treatment.

Case 3.—J. A. C. Hosp. Patient suffered sciatic neuritis in left leg. Radiotherapy was administered, 1500 ma. for 20 min. Patient received twenty-four treatments. Pain increased after the first and second treatments, then ceased entirely. No general reaction.

Case 4.—W. F. A. Hosp. Patient with epididymitis from G.C. infection. Radiotherapy was administered, 1100 ma. for 15 min. He received seven treatments from July 9 to July 21, 1934. There was a rapid return of the scrotum to its normal size. Milk injections were given intramuscularly also.

Case 5.—R. R. Hosp. Patient with active prostatitis from G.C. infection. Radiotherapy was administered, 1500 ma. for 20 min. He received fifteen treatments from June 28 to July 19, 1934. There was a temperature drop of 3.6 degrees Fahrenheit following the first treatment, with relief of pain. The gland returned to normal size rapidly. The dysuria was relieved and the urinary frequency lessened.

Case 6.—Miss G., Hosp. Staff, suffered contusion and sprain of left knee. Radiotherapy was administered, 1500 ma. for 15 min. She received thirteen treatments from June 28 to July 13, 1934. Recovery was rapid. No generalized reaction.

Case 7.—G. C. L. Hosp. Patient with Buerger's disease of the right foot. Radiotherapy treatment started June 28, 1934, 1100 ma. for 20 min. Patient received twenty-five treatments. Good results were obtained. The foot felt warm for 3 to 4 hours after each treatment. A lesion of the fifth toe on the right foot started healing after the fifth treatment; another lesion on the second toe healed after the fifteenth treatment. Saline solution was given intravenously also.

Case 8.—S. Hosp. Patient with a postoperative maxillary sinusitis. Radiotherapy was administered, 1300 ma. for 15 min. Patient received seven treatments from July 6 to July 13, 1934. Temperature dropped to normal after second treatment. Rapid healing followed this. No generalized reaction.

Case 9.—Female patient with active laryngitis. Radiotherapy was started July 24, 1934, 1100 ma. for 15 min. She received two treatments which resulted in marked improvement in her voice (she was able to talk instead of whisper). No generalized reaction.

Case 10.—A. V. T. Hosp. Patient who had a dislocated acromioclavicular joint reduced continued to suffer pain. Radiotherapy was administered, 1500 ma. for 20 min. Patient received five treatments from July 10 to July 16, 1934. He obtained marked relief of pain in shoulder after second treatment.

Case 11.—Female, aged 75 years, suffered from acute cholangitis due to badly infected gallbladder. Temperature was 105 F. She was badly jaundiced, complexion very yellow, and drainage from the gallbladder was obstructed almost entirely. The urine was brown, almost black in color. Test for bile was 4+. This was her second or third attack. Physician administered sodium amytal to induce sleep. She went into coma March 3, remaining in coma until March 7. Radiotherapy was administered on the second day of coma, using large applicator pads over the gallbladder and kidneys. The dosage was 2000 ma. for 15 min. daily, later increasing the treatment time to 20 minutes.

On March 6 patient began to come out of the coma. The following day she was fully conscious. After 12 or 15 treatments the infected condition of the gallbladder had been practically cleared up. Temperature became normal after the eighth treatment.

Case 12.—(Cook Co. Hosp. 1473628). P. A. I., girl, aged 7, with cellulitis of left cheek, complicated by severe orbital cellulitis. This little patient was extremely toxic, the hospital record showing a typical temperature curve varying from 103 to 104 Fahrenheit, and a pulse around 130. After the first treatment with radiothermy over the affected area for 10 minutes, the patient became toxic, but after the second treatment she was so much improved that she sat up and played. After the fifth application the entire infection became localized. In spite of the improvement, the attending otolaryngologist insisted on, and did perform, a simple buccal incision to establish drainage. Five radiothermy applications were made and a satisfactory recovery brought about.

Case 13.—(Cook Co. Hosp. No. 1407599). G. A., male, aged 40, suffered attacks of epistaxis, due to general hypertension, which were stopped with great difficulty by repeated packing. This patient later developed acute glossitis and lymphadenitis of a type considered by otolaryngologists as usually leading to a fatal termination.

He was given two 10-minute applications of radiothermy (15 meter wave length) one electrode on top of the head and the other under the chin. Although these treatments produced headache (as they usually do when this method is used), the complete disappearance of all threatening processes recompensed the gravely ill patient fully for his inconvenience. Later the technic of treatment was altered, three applications being given with glass electrodes over each side of the face.

Case 14.—Dr. S., aged 66, suffered for many years from spastic colitis complicated by myocardial involvement and general asthenia. He complained also of six to seven watery evacuations a day, borborygmi, abdominal distress, and loss of weight. It should be added that he had been treated both abroad and here by prominent specialists, without securing any improvement.

In this case it was decided to apply radiothermy to influence the vegetative nervous system, or that part of it innervating the abdominal viscera. For this purpose one large condensed electrode was placed over the intrascapular region and the other over the thorax. Twelve treatments on alternating days, varying from 20 to 30 minutes each were given. The physician-patient has reported that he is completely relieved from all suffering.

Case 15.—A. N., aged 42, a police official, suffered with traumatic arthritis of the left knee, subsequent to a gunshot wound of the joint. The knee was in a marked state of contraction, the patient requiring a crutch to enable him to move about. The joint was markedly swollen, painful, and limited in motion, and the affected leg was flexed at an angle of 20 degrees due to fibrous adhesions in the articulation. Pain was relieved after four radiothermy treatments, and motion of the joint was increased to practically normal after the ninth application. On discharge this patient discarded even his cane, which he had used instead of his crutch after the fourth treatment.

Case 16.—Mrs. De L., aged 24, underwent operation on February 10, 1935. Spinal anesthesia augmented by ethylene gas for closure were given. Patient had had a chest cold from which she had recently recovered, hence ether anesthesia was avoided.

On February 11, 1935, she suddenly developed bronchial distress with expectoration of heavy mucus, which quickly became purulent.

On February 12, 1935, laboratory and clinical findings indicated bronchopneumonia. Short-wave therapy was instituted immediately, 12 to 20 min., three times a day. This resulted in improvement in respiration. The temperature continued high, but it was in proportion to the rate of respiration which rose from 36 to 50 per minute. Daily treatment by radiotherapy resulted in normal temperature by the morning of February 18 with no rise of temperature in the afternoon. By February 20 she was able to sit up in a wheelchair. On February 23 she flew to Nevada without any untoward results.

Resolution of the pneumonic consolidation cleared up quicker in this patient than in any pneumonic patient we had seen. No other therapy was used except the usual protective and eliminative nursing.

Case 17.—Female, aged 36, suffered an acute gonorrheal infection of the Fallopian tubes. Her temperature was 102 F., pulse 92, and she was in great pain. In addition to vaginal hygiene and tampons of boroglycerine and ichthyol, short-wave therapy was given through the pelvis, 12 to 20 min., 1500-2000 ma., with immediate relief from pelvic pain. She returned to her occupation. Treatments were given three times weekly and copious douches were taken at home until negative smears were obtained.

Case 18.—Male, aged 51, suffered sudden perineal distress with chills on January 4, 1935. Temperature rose to 104 F. He had a history of a G.C. infection four years previously. After a routine examination, a diagnosis of acute (specific) prostatitis, bilateral epididymitis, and prostatic vesiculitis was given. All treatment was suspended except daily short-wave therapy through the pelvis, 1500-2500 ma. for 12 to 20 min., and the giving of Edwinil, 2 cc., three times a day. The patient gradually improved, discharge ceasing on March 1, 1935, and, except for a persisting nonspecific catarrhal prostatitis, this patient was comfortable.

Case 19.—Male, aged 32, on August 27, 1934, complained of a recurring urethral discharge of six year's duration. He had suffered also from multiple arthritic lesions over period of the past two years. Blood complement fixation test showed G.C. infection. In addition to usual care to clear up the discharge, a urethral stricture was overcome, and the prostate massaged. Short-wave therapy relieved his distress and on March 19, 1935, after repeated therapeutic tests, he was discharged, comfortable and probably cured.

Case 20.—E. B., male, suffered from asthma for 30 years. Radiotherapy was administered. At the first treatment, 2000 ma. for 20 min., the rays were directed over the diaphragm and through to the adrenals. He obtained relief in 2 hours and was free of distress for four days. After the second treatment he was free of distress for six weeks.

Case 21.—H. J., male, aged 48, suffered from high blood pressure for the past 5 years. Blood pressure ranged from 170 to 220 systolic. The following is a record of blood pressure readings taken before and after treatment with radiotherapy:

Date	B.P.	Treatment	B.P.
2-18	190/110	20 min. 1500 ma.	152/84
2-19	144/88	20 min. 1500 ma.	152/96
2-23	144/86	20 min. 1500 ma.	142/84
2-25	140/84	20 min. 2400 ma.	134/70
2-26	132/84	20 min. 2400 ma.	122/74

On February 28 while physician was out of town, patient experienced headache and dizziness and his blood pressure went to 220/120. Magnesium sulphate was injected intravenously.

Radiotherapy was continued on March 1, 1935, with the following results:

3-1	164/90	20 min. 1500 ma.	138/84
3-4	144/90	20 min. 1500 ma.	138/90
3-4	166/100	20 min. 1500 ma.	156/98

During the balance of March and April two to three treatments were given each week, with blood pressures averaging from 140/84 to 168/90 and no hypertension symptoms.

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The Need for Osteopathy in Industrial Accident Cases*

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The use of osteopathic manipulative treatment has been more limited in industrial accident cases than it has in cases in private practice. There are reasons for this limited scope of osteopathy in industry, among them being the compensation laws. It is my purpose not only to explain these laws as they relate to osteopathy, but also to stress the need for an enlarged participation by the osteopathic physician in industrial work.

The law in most states has allowed the employer the privilege of selecting the physician who is to care for his injured workmen. Unless this employer had staffed his own medical department, the actual choice of the physician has often been dictated by the insurance carrier, who has been interested, primarily, in making a profit on the insurance transaction. To accomplish this, the insurance-carrier-dominated physician has often been forced on the employer, so that when testimony was needed

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later in court to determine the extent of the disability and the amount of benefits that must be paid, the selected doctor, perhaps by minimizing the disability, would favor the insurance company.

Under such circumstances, the physicians treating compensation cases were chosen, often, not because of their skill and ability but because of the favorable court appearance they might make. In other cases, they were chosen because they would agree to charge fees that were materially below the rate prevailing for private cases in the same community. This situation has discouraged ethical physicians of all schools of practice from accepting compensation work. Many prominent physicians say that they would not accept compensation law cases and then be exposed to the rebating and bartering of insurance adjustors. In many instances the physicians would have to accept reductions in their usual fees or pad their bills in order that they could be reduced. Other doctors have objected to being called to court only to find, after waiting several hours, that the case was adjourned or that the court had no jurisdiction in passing on a fair fee. The average practicing physician has thus preferred to default these cases to the benefit of cheap clinics or to the insurance-company-controlled physicians.

In New York state these abuses, among others, were exposed by a committee appointed by the governor and as a result legislation was introduced and passed at the last session of the legislature whereby important changes were made in the compensation law. The amended law now allows the injured employee to choose his own doctor providing he selects such physician from a panel recommended for the various specialties of compensation work by the medical professions themselves. In this way it is hoped that the better qualified physicians will now do compensation work; this should result in providing a more adequate and ethical medical treatment for the unfortunate injured worker.

Standard fees for this work are being established and the splitting and reduction of fees are not allowed. In addition, all bureaus and clinics doing compensation work must be inspected and recommended by the professions themselves, after which the Labor Commissioner can license them.

The new New York compensation law represents a needed social change. Osteopathic physicians in other parts of the country should back similar legislation, so that some of the medical abuses prevalent in their states can be remedied. All physicians, regardless of their school of practice, should cooperate in giving a square deal to persons injured during the course of their employment.

Since the circumstances, under which compensation work may be done, have improved in New York state, each individual osteopathic physician in this state should extend his practice to compensation work, should register on the panel and should accept these cases so that reliable statistics can be collected as to the value of osteopathic treatment in compensation cases. *Physicians of the osteopathic school of practice should not hesitate to accept compensation cases, since the majority of industrial accidents require a therapy involving structural adjustment which is one of the corner-stones of osteopathic practice.*

Records of the New York State Labor Department show that there have been a total of approximately 430,000 compensation cases closed during the 5 years 1930-1934. Of this total number about 20 per cent were cases in which sprains and strains were listed as the major cause of disability. Another 20 per cent were classified as fractures and dislocations, and an additional 15 per cent were bruises and contusions. *Thus over 55 per cent of the cases closed during the period mentioned were directly concerned with treatment by structural adjustment* rather than by a therapy involving the use of drugs.

Due to the depression there have been less industrial accidents each year since 1930. Taking the year 1932 as representing the average of the last five years, 15,000 of the 82,000 compensation cases closed that year were sprains and strains. Six thousand of these sprains and strains involved the back only, which is almost seven and one-half per cent of all compensation accident cases. This percentage of back cases is approximately the same for each of the other years. In addition to these cases in which the back sprain was the major cause, there were thousands of other cases with back disability, but not so classified because they were secondary.

The average length of disability for these 6,000 cases was twelve weeks, and the average compensation paid was $214.00 a case. The cost of medical treatment is not indexed by the Labor Department, but including x-ray, physiotherapy, consultation, and other treatment it must have cost at least $10.00 a week or over $100.00 a case. This would indicate that the average cost of these back cases to the insurance companies or employers has been at least $315.00 each. During the past five years the cost for back injuries has been rising. The length of disability in a few other injuries is given as follows: Ankle sprains take an average of four weeks; knee sprains, nine weeks; fractures, sixteen weeks; and dislocations, fifteen weeks.

In the five year period there were a total of about 30,000 back sprain cases listed. In addition to this there were a thousand cases of back fractures and dislocations. Back fractures and dislocations are listed as two of the most expensive types of permanent disability because there has been no set amount scheduled for such cases, and the patients have continued to draw benefits.

These figures, especially those concerned with back disabilities, seem away out of line to most of us who are engaged in private practice. Many osteopathic physicians have treated similar cases in the ordinary run of practice without undue anxiety as to the outcome. The results they have obtained must have been far better than the average statistics I have quoted for the compensation law cases; and yet a high official of a combined group of insurance companies recently stated that "osteopathy is of doubtful value in compensation work and at best it is merely an expensive unnecessary adjunct."

This statement, as well as the extended disability time and the cost thereof for compensation cases involving the back, should be a challenge to members of the osteopathic profession to qualify and accept this work so that osteopathy, already well known and accepted by choice in many private cases

of the same nature, can be made available under the compensation law to the injured worker. Osteopathic care will return him to his usual work and pay envelope in less time, with less inconvenience to the employer's business, and at less cost to the insurance carriers.

One of the primary purposes of the amended law in N. Y. state is to provide more adequate medical care by dividing compensation law treatment into specialty procedures whereby the physician chosen by the employee may practice only in that field allotted to him, on the basis of his qualifications, by his professional society. The professions thus are responsible, as they should be, for the character of medical care which their members render. Under such provisions the best talent of the osteopathic school of practice should qualify, so that statistics may be gathered to show that osteopathy is useful not only as a treatment in the majority of accident cases, but also as a treatment that will lower the cost and the length of the disability in the majority of these cases.

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The New Nomenclature*

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Last year at Wichita, the speaker, acting in the capacity of a representative of the Committee on Nomenclature, made a brief talk on this topic. Wallace M. Pearson, this year's program chairman, feeling that the subject had not been covered to the satisfaction of the majority, asked that it be expanded and the reasons for certain changes made clearer. That is my only excuse for appearing again this year with the same subject.

In order to establish a background for a more detailed explanation of the new nomenclature, let us go back a few years.

Earlier than 1907 there was considerable agitation regarding the naming of osteopathic lesions. That year the matter was discussed before the A.O.A. convention in Norfolk, Va., and a committee headed by M. C. Hardin, Atlanta, Ga., was appointed. This committee must have experienced a good deal of internal trouble for the final report was not made until eight years later and then too late, for a voluntary group had reported a list of terms two days previously and this list had been approved by the A.O.A. (Journal of the A.O.A. August, 1915, and June and July, 1916.)

From The Journal of the A.O.A., *Osteopathic Physician*, and *The Journal of Osteopathy* we gather quite an interesting story of this first committee and its report.

It appears that the committee was given no outline to follow and was not instructed to bring back any certain type of nomenclature. It does seem that after eight years of work all differences should have been ironed out and every term accepted and the report should have been the perfect consensus of several members of the committee. But committees were no different then from those appointed now. The membership was taken from the field and from the teaching staffs of the several colleges without regard for geographic distribution or working ability. The final report of the committee is exceedingly interesting. The terminology was translated into Latin to conform to the BNA which was then gaining strength after having been tried for several years. The Latin form of the BNA has not proved as popular in this country as some believed it would; and so it transpires that the A.O.A. was wise in not adopting the comprehensive Latin list of osteopathic terms. None except a very few ever would have used the terms, and even they would not have used them in their thinking.

However, the Hardin report is a wonderful piece of work; it expresses the possible lesions and is easily understood if one knows a little Latin. Otherwise, it is useless and easily misunderstood. Most of us do not think in Latin terms.

Let us go back and learn the story of the volunteer committee. Several in the profession had waited in vain for years for the Hardin report. They were those most interested in correlating the work of the several colleges so that as a profession we would be speaking a common language. The teachers of technic in the various schools were called together in June, 1915, by Harry W. Forbes, Los Angeles. Four out of the seven colleges were represented and this group, acting upon its own initiative, formulated a list of terms that for the most part were sensible and very acceptable. This report was presented to the A.O.A. at Portland, August 1, 1915, and was approved on that day. Two days later Dr. Hardin's report came in and was turned down. Edythe Ashmore, Pasadena, Calif., was secretary of the self-appointed group and her accepted report appears in both the Journal of the A.O.A. and *The Journal of Osteopathy* for August, 1915. Dr. Hardin's report did not appear in print until the April and May, 1916, numbers of the *Osteopathic Physician*. H. S. Bunting, who was then publishing the *Osteopathic Physician*, was often at swords' points with the A.O.A. Journal and delighted in uplifting those whom he considered to be downtrodden. Dr. Bunting held that Dr. Hardin had been treated badly after having worked eight years and getting in under the wire as second, which in this case meant not at all.

In 1922 the speaker offered a terminology. It was published in the *Osteopathic Physician* and a few complimentary letters were received, but it died a natural death.

The matter of nomenclature was discussed at A.O.A. conventions for several years and a good many letters were exchanged. The majority of physicians talked to and heard from wanted something easy to think of and easy to apply, as nearly natural as possible, and as close to what was already in common usage as was practical. The workers on the tower of Babel had nothing on the average group that started to explain its ideas of a lesion and the resultant bony malpositions. Finally, at the Detroit convention in 1932, a committee was made official and given the job of working out something practical, although the nomenclature approved in 1915 by the A.O.A. had not been stricken, to my knowledge, from the records.

*Delivered before the General Sessions of the Thirty-Ninth A.O.A. Convention, Cleveland, 1935.

This committee consisted of representatives of the six recognized colleges. They met in Milwaukee three days previous to the A.O.A. convention in 1933. They put in their time faithfully and gave of the best of their knowledge, sincerely glad of the opportunity to get together and get this business straightened out. This group made absolutely no attempt to Latinize the terminology. I cannot remember of one instance where it was even suggested. We seemed to be in accord from the start, and having had a year to think it over, we came to the Milwaukee meeting willing to listen and yet capable of judging and contributing, each his own views.

The work was not quite finished in Milwaukee, although we worked faithfully for the three days given over to the discussion. A report of the work done at Milwaukee and the terminology adopted was published in THE JOURNAL OF THE A.O.A. for October, 1933. We adjourned to meet the next year at Wichita and complete the work, which we did, and the balance of the report was handed in to the A.O.A. and the Associated Colleges of Osteopathy on Monday of convention week. It was approved and adopted in full. The second installment of the terminology agreed upon was published after the Wichita convention in THE JOURNAL for September, 1934. Taking it as a whole, it is a report that the committee is proud of. [Both installments are published in their entirety for the convenience of students and practitioners at the end of this article.] Legally, I am not sure of its standing, considering the approved report of 1915, but those of us who have compared the two naturally favor the later nomenclature. It is interesting to note that some of the definitions in the two approved lists are almost identical, and yet I can swear that none of us had a copy of the 1915 list at the meeting. Some may have had copies at home, but they were not brought to the meeting nor were any notes introduced. The definitions and words themselves were built up and adopted as the need arose to express certain ideas about the osteopathic lesion.

I want to go over some of the terms we defined and expand a little on their use. Considerable latitude is permitted in all such terms, but back of a definition lies a certain established fact regardless of how the fact is put to use. If six teachers of osteopathic technic, deeply interested in their work, can accept this, it should have the approval of the entire osteopathic profession without a dissenting vote.

A number of facts presented themselves before this committee at its first meeting and had to be used as the basis of the work that followed. We had in the past used a number of terms that were not scientific. These had to be eliminated even at the expense of incurring the enmity of a number of the profession. Duplication must be reduced to the minimum. This was particularly true of lesions around the pelvic region. Individual systems of terminology were to be considered and, if applicable, adopted; especially if they had been used for a sufficient length of time to become popular. As few changes as possible were to be made considering the terminology used by the majority of the profession. The terms must be simplified as much as possible; this for the benefit of both the practicing physician and the student. A useful term is one that expresses a common idea in as simple language as possible. Anything as complicated as the spinal column needs a great deal of study, but if its complications can be reduced to simple terms and these expressive of certain known facts, then the complex conditions will be much better understood. One can readily see that this committee had more to do than to just sit in a meeting and vote "yes" now and then. All opinions were immediately translated into an opinion of the whole, which in every case attempted to reflect the ideas of the profession rather than the membership of the committee. If we already had a term defined in standard medical dictionaries it was used in preference to one in perhaps more common usage within the profession. Our terminology must be clearly understood not only by ourselves, but also by other professional men and women. If our terms were not scientific and did not express certain facts, then we might be accused of trying to foist unfounded fancies on the public and would of course be ridiculed. When we finally completed the list of terms, we sincerely felt that we were expressing the will and ideas of the majority of the profession and not the few assigned to the work.

Our first problem was to define the lesion. But there are several kinds of lesions and each of these may be subdivided. Since we were to attempt to correlate the terms relative to the bony lesion, it was defined first. This definition reads as follows: "An *osteopathic articular lesion* is any alteration in the anatomical or physiological relationships of the articular structures resulting in local or remote functional disturbance."

This definition settled in our minds the controversy between the use of the word *variation* and the word *abnormality*. These words do not mean the same and therefore should not be used where there is any doubt as to the meaning intended. By using the word *alteration* we imply that the articulation has been normal at some time but that a change has occurred. It is not a variation such as when we find a long spinous process or any other difference which occurs during the developmental process. The variations that occur in human faces are perhaps the most noticeable examples of variations. Variations are to be expected and we must appreciate that fact. However, when the developmental change is such that the part cannot function within the normal expectancy, then it becomes an abnormality. This condition does have an influence on tissues other than the one primarily affected. We believed that the word *alteration* was more expressive of the idea of the osteopathic principle than either the word *variation* or *abnormality*.

Notice that this definition is worded to satisfy everyone. Those of us who stress alterations in movement will find it in the definition. Those who prefer to think of the lesion as being manifested by a bony prominence will find that idea incorporated also. Anatomical alterations accompanying lesions enable us to locate the lesion by comparing the relative position of palpable bony prominences. Physiological alterations take care of the changes in range of movement. The committee fully agreed that both of these factors are essential to an accurate diagnosis. The one must be checked with and against the other before we can be certain of the existing condition.

Having defined the lesion, the next step was to

state the type or kind, and it was agreed that the terms used should indicate the change in function. This brought up the discussion of terminology to be used in describing the normal movement of the spine. It was again agreed by all present that we would use terms in common usage and approved by their publication in standard medical dictionaries or accepted authorities writing on the subject of the spine. We therefore selected the words *flexion, extension,* and the phrase *lateroflexion with rotation.* (This last phrase may be transposed to read *rotation with lateroflexion,* and not change the meaning.)

Flexion is defined as meaning forward bending in any part of the spine and *extension* the opposite or backward bending. *Lateroflexion* means side-bending, but with this movement in the majority of spinal articulations there is a complement of rotation so it must be expressed to differentiate it from lateroflexion which may occur alone.

In applying the movement of flexion to any spinal joint, it is found that the same thing occurs in each anatomical division of the spine. If the diagnostician has a picture of flexion in his mind and finds certain anatomical landmarks indicating this position, the joint being fixed, the lesion is then referred to as a *flexion lesion.* The degree of flexion is not stated. Fixation or limitation of movement may occur at any point within the normal range of movement. If the physician has an appreciation of the normal range of movement, he uses this knowledge in defining in his own mind the degree of change or the extent of the lesion. This same principle is applied to each of the other terms used in indicating the type of lesion. Since movement is the function of a joint, any disturbance in either the anatomical or physiological relationships of the structures making up the joint, will vary the movement. There must be a complete understanding of each joint from both the anatomical and the physiological standpoints. This means that the practitioner and the student alike must be able to picture in their minds the bony formation and its influence on the type and degree of movement possible, the ligaments and the function of each, and the muscles, which are the only active tissues influencing movement. The picture must be complete. To depend upon the *feel* of one tissue alone in reality means very little. It is a guidepost to be sure, but when we state that we have found a flexion lesion the term calls to mind possible anatomical and physiological changes in all three tissues.

It was also agreed at this time that in identifying a lesion by naming one of the bones involved, the one named should be the upper of the two. We consider that the lower has not changed its relative position, the movement being of the upper upon the one below. A lesion between the fourth and fifth thoracic vertebrae would be known as a lesion of the fourth and not of the fifth. An occipito-atlantal lesion may be better named *occipital.* A lesion of the sacrum is referred to as such, rather than a sacroiliac or, worse still, the old term *innominate.* This idea naturally brings considerable criticism down on the heads of the committee, especially from those who have used the term *innominate* so freely for so long a time. However, if we are to be scientific, we must hold to this rule and we believe it is best to make this change now rather than to wait and be compelled to make it later. The trend in scientific circles is in this direction.

Our next step was to expand the descriptive term to establish the lesion sequence so often mentioned. Considering the mechanics of the body and its natural tendency to compensate for anatomical and physiological changes, we must recognize primary and secondary conditions. These terms are easily defined from a didactic standpoint. It is merely a matter of putting together the words that anyone would use in establishing an order of occurrence. The difficulty that will be met in practice is to get two or more physicians to agree upon which is the primary and which is the secondary lesion in a given case. We all admit that these terms must be used. They cannot be omitted, for even the novice can easily see the secondary effects of a primary condition in many cases. The question then arises, "Have we found the real primary lesion?"

At this stage of our work we took a breath and viewed the structure which was being erected. It still lacked a most necessary classification, a sort of finishing touch. We had not specifically indicated the pathological picture affecting the lesion. Two of the most commonly used terms in this science are *acute* and *chronic.* About the first thing we learn in this connection is that acute conditions are still in the active stage and that changes are occurring at the moment. These may be progressive or retrogressive. But in the chronic state, no changes are being made. The tissue apparently has remained as found for a considerable period of time. The part is not normal, for certain recognized anatomical and physiological changes have occurred, leaving their marks. Time is naturally a factor in the change from acute to chronic, but transition is more rapid in some cases than in others and so the difference cannot be based upon age. This is another term that will have to be interpreted by the physician, and he must use his best judgment in classifying the lesion.

Certain articulations of the spine being peculiar, or not typical, needed special attention from this committee. The occipito-atlantal joint is not a complicated one, if it is properly studied and a proper understanding applied to technic. The occiput does not slide forward nor backward on the atlas. Therefore, we cannot speak of either anterior or posterior lesions of this articulation. The primary movement or free movement of the joint is flexion and extension. The small amount of lateroflexion with rotation is often responsible for lesions, and these can be diagnosed. This joint, being at the top of the vertebral column, offers a common seat for secondary lesions as they usually occur above the primary. The elimination of the terms anterior and posterior as applied to the occiput will hurt many of our profession, but we cannot use them except when the movement is either forward or back in the horizontal plane and this does not occur at this articulation. The possible lesions at this joint have been fully defined in the published list.

Also an *anterior atlas* or a *posterior atlas* is impossible with the joint found between the atlas and axis. The typical lesion is rotation and is so named. It is easy to diagnose. The small amount of flexion and extension is negligible and it was agreed that it

would not be considered, since the characteristic movement is seldom affected.

In naming sacroiliac lesions the committee knew at the beginning that it was treading on sacred ground. About this articulation swirls and eddies considerable debris in the form of incorrect ideas of movement and errors in terminology. I have a copy of "The Science and Art of Midwifery," by Lusk, published in 1886. On page 155 he begins a discussion of the movement of the pelvic articulations during labor. There is an excellent picture and the description is complete, all of which corresponds to our laboratory findings on the prepared specimen. Basing our nomenclature on this description, which antedates Goldthwait's announcement by many years, and also upon our own findings, we approved of flexion and extension lesions at the sacroiliac joint. Then to avoid the various terms used to indicate bilateral movement in opposite directions we use the term *rotated sacrum* and close the terminology for sacroiliacs. This eliminates the old anterior and posterior innominate or any other set of terms for which the innominate is used as the base. If we adhere to our original plan of naming the bone above the lesion, this articulation will be a sacral lesion, but to distinguish it from sacrococcygeal it should be known as sacroiliac. The question of diagnosis is not discussed here. It was not the purpose of this committee as originally appointed to bring in the subject of diagnosis, but the various methods of diagnosis were discussed thoroughly in order to arrive at this conclusion. Leaving out the older terms will of course cause considerable confusion and some resentment. The committee has already been branded as a bunch of young upstarts trying to change the entire concept of technic and treatment. As a matter of fact, the group was made up of teachers who have the serious problem of clearing up just such vague items as this, and when we finished with the sacroiliac we all felt that we had thrown off a load that had been like a millstone around our own necks for years.

The new nomenclature is not intended to change the practicing physician's technic in the least. It does not change his conception of the lesion nor of the movement of the articulation, if he has an acceptable explanation of the movement. It does not change his methods of diagnosis if he has been working along lines of proven facts. The sacroiliac is the most complicated of joints and yet we believe that the movements and the naming of lesions of this joint can be made to conform to the general plan as carried out in the spine as a whole. This committee does not claim to know all about the sacroiliac, but it does claim to have agreed on the movement and the naming of lesions that occur at this joint and that is more than any other group of scattered individuals have done before.

Sacrococcygeal lesions can be designated easily. The terms *flexion, extension,* and *lateroflexion* as used higher in the spine fit perfectly here. However, we do have to change the rule of the movement being of the bone above. Since no weight is supported here from below and since the sacrum is much the larger of the two, the movement is thought of as of the coccyx bending forward, backward or to one side on the sacrum as a fixed bone. We were sure that this is the most common idea of the relationship between the two bones, and this, the only exception to the rule of naming the lesion for the bone above, emphasizes the rule itself.

At this point the committee stopped to consider whether it had been delegated to carry the work beyond the spinal articulations. If so, costovertebral and the other rib articulations should be next in order. It was finally decided to continue, because of the extremely close relationship of the rib articulations to those of the spine.

It will be noted that in designating rib lesions also the committee has eliminated a number of commonly used terms. In the future ribs should not be referred to as either anterior or posterior. A little study of anatomy will show why this is so. The main function of rib movement is to increase or decrease the diameters of the thorax. To do this the ribs must be elevated in expansion and depressed during deflation of the chest. The peculiar combination of two axes of movement carries the anterior end of the rib through a greater distance but does not change the number of degrees of movement of any part of the rib. Wishing to express this in as simple terms as possible the committee used the words *elevated* and *depressed* which in our opinion cover all possible rib lesions with the exception of those of the last two ribs. Because of the difference in the manner of attachment, these two ribs may be rotated on their long axis in addition to being either elevated or depressed.

In the discussion of the articulations of the skull, the committee agreed that the only one subject to lesion is the temporomandibular. This being a double joint, the lesion may be thought of as occurring between the meniscus and the glenoid fossa or between the meniscus and the condyle of the mandible. The form of the bony structure prohibits certain movements of the meniscus, but it may be lateral, anterior or postero-inferior. In either case the action of the mandible upon the meniscus is altered, consequently free movement is impaired. The terms used in designating the altered position of the meniscus are to be used in naming the lesion.

At the meeting in Wichita the committee completed its report, adding to the joints mentioned above, the articulations of the upper and lower extremities. Considerable criticism was brought out by several members of the committee, it being directed to those who in stressing a certain specialty apparently try to make their work complicated beyond the comprehension of the average practitioner. The terms we have to offer for lesions of the joints of the extremities may seem to be entirely too simple, but these terms follow the general rule we established in the beginning of the work and were fully accepted by the committee as sufficient in scope to cover the possible alterations of these articulations.

The sternoclavicular lesion has been designated as either anterior or posterior, which terms include a slight amount of rotation around the long axis of the clavicle. Should the joint surfaces become entirely separated, the joint is in a state of dislocation and is taken out of the class of lesions as we define it. This rule is also applied to the remaining diarthrodial articulations of the two extremities.

The acromioclavicular joint suffers a great deal

from traumatic injuries. It is a weak joint from every standpoint and lesions are common. The joint may be fixed in almost any position within its normal range of motion and is commonly found with the clavicle elevated, following medial compression of the joint. Aside from using terms to designate fixation within the normal range of motion we add the term *compression* which indicates that the outer end of the clavicle projects above its normal level. This involves the meniscus of the joint, which is variable.

The committee considered it impractical to attempt to attach a number of names to lesions of the remaining joints of the two extremities. It was our opinion that the profession is well acquainted with the normal movement in these joints including the several articulations of the wrist and the ankle. True, great stress has been laid on the importance of technic directed to the foot and the related joints of the lower extremity. We admit the importance of this work, but we believe that the application of an old osteopathic principle covers the whole field without taking each articulation up in detail and trying to establish it as the premier factor back of the reestablishment of normal movement and balance. Osteopathic physicians are well grounded in the anatomy of the joints and know the type and range of movement of each joint of the upper and lower extremities. We can, therefore, cover the lesions of these articulations with a blanket statement. "Lesions of the diarthrodial joints of the extremities shall be named by designating the type of restricted movement." This statement recognizes any standard anatomy in its definition of the movement of the articulations and is qualified by only one restriction. If the joint surfaces have been completely separated the joint is in a state of dislocation and should be treated as such. Restricted motion in any of the joints of the extremities is therefore the main diagnostic factor in our work. We then define the type of motion limited and in this way name the lesion. The principle of technic used in the restoration of this movement is then based upon our diagnostic finding.

The work of this or a similar committee should continue. Not that members of this group are asking to be reappointed, but we feel that some group should get together and comb the subject of technic in much the same manner that we have gone through our osteopathic terms used to designate lesions. The two subjects are closely related and there should be a sympathetic contact made between the nomenclature committee and any other working along similar lines. No doubt changes will be suggested and made in this list. Such suggestions should be made to the committee and not to any one member of it. The group felt as a whole that a great deal of good had been accomplished, the members of the committee benefiting more than those not so deeply interested. We must not assume the attitude that the terms we use are satisfactory unless we are certain that they cannot be improved upon. If one uses any of the terms that this group has discarded, and feels some resentment toward the committee for the act, before expressing himself openly he should stop and analyze his own terminology and see whether it is as clear and as expressive as it might be. Could it be recommended as used, and could it be taught to our present-day students as scientific?

The approval of the practitioner of the work of this committee is reflected in his use of the nomenclature. Its success did not depend upon the six members of the committee, but it does depend upon the profession's acceptance of this report and the use of the terms. This nomenclature gives us, as a profession, a common language and avoids many of the little misunderstandings that have arisen in the past. The colleges have approved the work of the committee and promised to use the new terminology in each department where it is applicable. The A.O.A. requires that articles printed in the official JOURNAL of the profession use this nomenclature, and this is also demanded of speakers officially appearing before our conventions.

The committee which has been discharged with thanks, wishes to express its appreciation for the opportunity of acting in this capacity. Each of us learned a great deal.

STANDARD OSTEOPATHIC NOMENCLATURE FOR OSTEOPATHIC TECHNIC

An *osteopathic articular lesion* is any alteration in the anatomical or physiological relationships of the articular structures resulting in local or remote functional disturbance.

The term *flexion* when used with reference to spinal joints indicates the position assumed by the joint in forward bending.

Extension when used with reference to spinal joints indicates the position assumed by the joint in backward bending.

Lateroflexion when used with reference to spinal joints indicates flexion to the right or left of the midline.

Rotation when used with reference to spinal joints indicates direction of movement around an axis.

Primary lesion is one which arises independently of any other osteopathic lesion or visceral irritation.

The term *acute*, as applied to the condition of lesion, indicates the presence of active inflammatory process.

Secondary Lesions.—(a) A *secondary reflex lesion* is one resulting from remote irritations; (b) a *secondary compensatory lesion* is one of static origin.

The term *chronic* as applied to the condition of lesion indicates the presence of tissue changes in which active inflammatory process is no longer present; the term *compressed* as applied to the condition of chronic lesion indicates abnormal interosseous approximation.

The location of spinal lesions is designated by number, and the lesion is named from the upper of the two bones involved.

TYPES OF LESION (POSITIONAL) OF TYPICAL INTERVERTEBRAL ARTICULATIONS

Positional types of lesion may be classified according to the positions permitted by the mechanical arrangement of any given joint.

Typical intervertebral joints permit the following typical movements, and the lesion types are named therefrom.

1. Flexion
2. Extension
3. Lateroflexion—(If appreciable lateroflexion occurs, a complement of rotation will be present.)
4. Rotation—(If appreciable rotation occurs, a complement of lateroflexion will be present.)

TYPES OF OCCIPITO-ATLANTOID

1. A *flexed occipito-atlantoid lesion* is one in which occipito-atlantoid articular movement is bilaterally restricted in position of flexion.

2. An *extended occipito-atlantoid lesion* is one in which occipito-atlantoid articular movement is bilaterally restricted in position of extension.

3. *Lateroflexed and rotated occipito-atlantoid lesions* are those in which the occipital condyle on the side of the pro-

duced convexity passes superolaterally and posteriorly, and the occipital condyle on the side of the concavity passes inferomedially and anteriorly.

THE ATLANTO-AXIAL LESION

This is one in which rotation of the atlas upon the axis is abnormally restricted.

TYPES OF SACRAL LESIONS

Sacroiliac Lesions.—

1. A *flexion lesion* of the sacrum (flexion sacroiliac lesion) is that condition in which the proximal sacral segment approximates the symphysis pubis, with concurrent increase in distance between the distal sacral segment and the symphysis pubis.

2. An *extension lesion* of the sacrum (extension sacroiliac lesion) is that condition in which the distal sacral segment approximates the symphysis pubis, with concurrent increase in distance between the proximal sacral segment and the symphysis pubis.

3. A *rotated sacral lesion* (torsion sacroiliac lesion) is that condition in which the sacrum rotates between the ilia around an axis which approximates the longitudinal axis of the sacrum.

Sacrococcygeal Lesions.—

1. A *flexion, sacrococcygeal lesion* is that condition in which sacrococcygeal articular movement is restricted in position of flexion.

2. An *extension sacrococcygeal lesion* is that condition in which sacrococcygeal articular movement is restricted in position of extension.

3. A *lateroflexed sacrococcygeal lesion* is that condition in which articular movement is restricted in position of lateroflexion.

THE TEMPEROMANDIBULAR LESION

This is one in which there is restriction of the normal movement occurring between the articular disk and the mandibular condyle.

This lesion may occur unilaterally or bilaterally.

TYPES OF CLAVICULAR LESIONS

(a) Sternoclavicular lesions.

(b) Acromioclavicular lesions.

Clavicular lesions are primarily rotations of the clavicle around its long axis. They are named *anterior* when the superior aspect of the clavicle is rotated anteriorly; they are named *posterior* when the superior aspect of the clavicle is rotated posteriorly. (These terms, anterior and posterior, apply to both sternoclavicular and acromioclavicular lesions.)

There is another type of lesion at the acromioclavicular articulation which consists of medial compression of the articulation with clavicular elevation.

Terminology for lesions not included in this report should be formally studied at some future time.

Lesion	Flexion	Primary	Acute Chronic*
		Secondary	Acute Chronic*
	Extension	Primary	Acute Chronic*
		Secondary	Acute Chronic*
	Lateral Flexion with Rotation	Primary	Acute Chronic*
		Secondary	Acute Chronic*
	Rotation with Lateral Flexion	Primary	Acute Chronic*
		Secondary	Acute Chronic*

*See definition of chronic compressed lesion in a foregoing paragraph.

TYPES OF RIB LESIONS

Lesions of the ribs shall be known as:

1. *Elevated.*—An elevated rib is one held in the position of inspiration.

2. *Depressed.*—A depressed rib is one held in the position of expiration.

The eleventh and twelfth ribs may be rotated on their long axes in combination with elevation or depression.

TYPES OF SHOULDER LESIONS

Shoulder lesions, with the exception of dislocations, shall be named by designating the type of restricted movement.

TYPES OF ELBOW LESIONS

Elbow lesions, in addition to those occurring in the normal plane of movement, may be:

1. *Adduction.*—When used with reference to the elbow, indicates the involvement of the entire joint with adduction of the forearm and rotation of the ulna around its long axis.

2. *Abduction.*—When used with reference to the elbow, indicates the involvement of the entire joint with abduction of the forearm and rotation of the ulna around its long axis.

TYPES OF WRIST AND HAND LESIONS

The remaining joints of the upper extremity, with the exception of dislocations, shall be named by designating the type of restricted movement.

TYPES OF HIP LESIONS

Lesions of the hip-joint, with the exception of dislocations, shall be named by designating the type of restricted movement.

TYPES OF KNEE LESIONS

Lesions of the knee-joint, in addition to those occurring in the normal plane of movement, may be:

1. *Adduction.*—When used with reference to the knee, indicates adduction of the leg and rotation of the tibia around its long axis.

2. *Abduction.*—When used with reference to the knee, indicates abduction of the leg and rotation of the tibia around its long axis.

TYPES OF TIBIOFIBULAR LESIONS

The various lesions of the tibiofibular articulations shall be designated according to the position assumed by the fibula; viz., *anterosuperior* or *posterosuperior.*

TYPES OF FOOT LESIONS

Talocrural.—Lesions of the talocrural articulation, with the exception of dislocations, shall be named by designating the type of restricted movement.

Talocalcaneal.—Lesions of the talocalcaneal articulation, with the exception of dislocations, shall be named according to the position of the head of the talus; viz., *medial* or *lateral.*

The remaining lesions of the foot, with the exception of direct traumatic injuries, are secondary compensatory lesions, and are named by designating the type of restricted movement between the bones involved.

Committee for the Study of Nomenclature and Terminology of Osteopathic Technic.

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OSEOPATHIC RESEARCH IMPERATIVE

Thomas R. Thorburn, in his paper published in last month's JOURNAL, called attention to the phenomenal growth and development of the osteopathic profession and its broadening sphere of practice. It is most regrettable that the development of the osteopathic concept has not kept pace with the multiplication of its practitioners. What a different story Dr. Thorburn could have told, if it had!

On this foundation could be built any one of many thought-provoking discussions. For one thing, they remind us that we have many times mentioned facts which we particularly emphasized in the editorial columns of THE JOURNAL for March and April, 1933. At that time we said:

"There is no reason to doubt that there is considerable of a gap between pathology produced by strictly spinal articular lesions and the totality of body pathologies. Nor are the mechanical causes of disease confined even to articular disturbances. . . . It is highly desirable that a more thorough study be made as soon as possible of the much used, but not much studied, soft tissue technic. Perhaps the Committee on Technic of the Associated Colleges of Osteopathy will find it well to take up that problem as a supplement to the work which it is now doing on spinal lesions."

The present thoughts are inspired by the article which Louise Ferris-Swift has in this number of THE JOURNAL, "The Effects of Indirect Splenic Treatment in Normal Individuals."

For many years—perhaps from the beginning—osteopathic physicians have observed the good effects occurring in different conditions as a result of rapidly repeated pressure and release over the liver. All who have used such a method have found that it is often effective, though perhaps the reasons for its effectiveness have not been sufficiently thought out.

Sixteen years ago, M. A. Lane called attention to results of treatment—direct and indirect—to the spleen, which he considered to be of outstanding importance in the development and maintenance of immunity.

About that same time, C. Earl Miller popularized the system of treatment which has ever since been known as the "lymphatic pump," the application of alternate pressure and release manually over certain parts of the body, most commonly the upper portion of the chest. Dr. Miller and many others have believed that the effects come from stimulation of the circulation of the lymph. It does seem to be true that persons suffering from ascites, who are measured at the beginning and at the conclusion of a period of treatment, show a marked change toward normal in the distribution of fluids in the body. As a preliminary to the successful reduction of obstinate lesions, experience seems to show that this method of treatment is an important factor. In the control of infections, it seems quite efficacious.

Even after all these years, there seems to be no experimental evidence to show whether the flow of lymph is particularly affected or not. Some, in fact, attribute the beneficial results to a supposed increase in the oxidation rate within the body. It should be comparatively easy, by means of the basal metabolism estimation or otherwise, to determine what the treatment really does in the way of increased oxidation. It would seem that blood tests, including pH readings, would help to settle some of the questions involved, and the matter of the influence of the treatment on the circulation and the distribution of the lymph should not be too difficult for experimental determination. In short, laboratory investigation at our colleges or elsewhere should solve the problem of what really takes place when the so-called "lymphatic pump" is used.

For many years the use of spinal traction in a variety of cases has been observed to be very beneficial. Surely, it is not an impossible task to determine something of what conditions may be benefited, under what circumstances, and by what varieties of traction. We might even ascertain the reason for this improvement, or its lack, under given circumstances.

In her article in this number of THE JOURNAL, Dr. Swift recalls investigations made as to the effects of treatment applied directly over the abdomen for the purpose of enhancing the effectiveness of the work done by the spleen along the lines of immunity, and she reports later studies of the effects of "indirect" treatment—that applied at a distance from the spleen. This report reminds us of what has more or less frequently been said before—though evidently not often enough. Osteopathic physicians by thousands have used—or have believed that they used—"stimulation" and "inhibition" in the treatment of unnumbered cases, and yet pitifully little has been done in the way of actually proving what is stimulatory and what is inhibitory manipulative treatment. In the cases reported by Dr. Swift rapid percussion with the fist was applied to the back near the spine, and in a large majority of the cases the results were in keeping with the effects which Dr. Swift says

should theoretically be evident. That is, the effects observed might come from a stimulation of the sympathetic nerves in the region treated, which in turn would inhibit the function of the spleen. But in a very significant proportion of the cases, this identical treatment produced effects which might be attributed to stimulation rather than inhibition of the functions of the spleen. The total number of cases reported was so small that Dr. Swift offers no explanation. Many questions will suggest themselves. For example:

Did the paraspinal percussion in some cases stimulate muscular contraction to the extent that even the abdominal muscles were included, clamping down upon the spleen and tending to express its contents, even as they seem to be expressed when direct abdominal treatment is applied to that organ?

Is the effect of most osteopathic manipulation, as so many have contended, directed toward the normal, no matter what the condition of the body may be? Is it possible that in sixty-eight per cent of the cases reported by Dr. Swift inhibition of splenic function was needed, and inhibition resulted? Is it possible that in the other thirty-two per cent stimulation was needed and stimulation resulted?

The answer is not likely to be as simple as that, even though the wonderfully beneficial effects of manipulation through the years, so often at the hands of those who are ill-prepared, point toward the conclusion that there is more than a modicum of fact in the suggestion.

We are reminded again that Dr. Thorburn last month had to confine himself to the phenomenal growth and development of the osteopathic profession, and its broadening sphere of practice, while there was little or nothing to be said for the growth of the science of osteopathy. The rudimentary and fragmentary osteopathy which most of us have practiced has brought such seemingly miraculous results that we have been satisfied to slide along (if not, indeed, to stand still) with an elementary concept which, while better than anything anybody else had found, was still immeasurably short of its own possibilities.

Year after year the allopaths have pushed forward in popular esteem, largely on the basis of publicity built on conjectures. A wonderful theory would be propounded as to the cause or the cure of a given condition, and it would provide material for newspaper and magazine articles, public lectures, radio broadcasts, and book education of the public until, after months—or even weeks—another was put forward. By the time the first was discredited a second or a third had taken its place in the popular mind, and no one remembered what a flop the first had been. By the time the second and third were proved inadequate, others had taken their places—and the method was most effective in keeping the people convinced that "scientific medicine," so-called, is the beginning and the end of things worth-while in that field.

Meanwhile, osteopathy—a crude and elementary osteopathy confined to a most insignificant fraction of the things it could do—went on its monotonous way with an expanding personnel, growing colleges, increasing clinics, multiplying hospitals, improving laws—but with a minimum of scientific growth. Year after year we have held conventions at which such announcements of scientific progress as were made were disappointingly small, compared with what we had a right to expect. Year after year we have published journals in which whatever scientific developments were recorded were too often from other fields of thought. Year after year, the world of science in general has put out its multiplying collections of books with never a word of progress in our own field.

This cannot go on. It is not only that many lives which we could save will not be saved. It is not only that we ourselves will tend to die professionally of dry rot. It is not only that industrial medicine and insurance medicine and socialized medicine will remain closed or almost unattainable fields so far as osteopathy is concerned. There is more to be considered than all that. No longer are the medics satisfied to continue their merry-go-round of a new conjecture this week, to be replaced by some equally valueless one next week. They have discovered the human body. They have put life into natural immunity. They are capitalizing on body mechanics.

What does that mean to us? It does not mean that, like children, we shall go about, crying that someone has stolen our thunder. The field which was discovered and cultivated by our founder more than sixty years ago and which has been occupied by his followers for more than forty years, is no longer to lie untilled. It has been found by others, who recognize its potentialities. It is being exploited by those who have the backing of popular opinion, of law, of great universities, of unnumbered research institutions, of limitless wealth. Priority is all we have—priority, and some experience and a slight appreciation of the value of our heritage. We have not even taken advantage of the priority. In our own self-satisfied way we have patted ourselves on the back without even undertaking to put what we know into the language of the larger world of science, of which we are a part, even for the empty satisfaction of being able to say that we knew it first. We have capitalized but little on our experience, which should enable us to do so much more wonderful things than can the alien breed who would add this richest therapy of all as a mere adjunct to their ill-favored offspring of superstition and witchcraft.

And as for appreciating what we have—some of us are ashamed of our honored name.

The few small lines of investigative effort which have been suggested in this editorial are elementary indeed. They are only a little part of what can be done in these three fields. Such studies of the so-called "lymphatic pump," of spinal traction and of splenic stimulation, as have been mentioned herein, are only the A.B.C.'s of the almost limitless field of investigation which is right at hand in osteopathy. They are sufficiently elementary to provide promising subjects for the preparation of theses by senior students in our colleges. Beyond that lies a virgin continent ripe for exploration, requiring the facilities and the personnel of the world's greatest research organizations.

. . . . . .

After this editorial had been written and this conclusion reached the November-December number of *Osteopathic Digest* came to hand. Its scientific supplement is made up of a sixteen-page article from the Departments of Research and Radiology of the Philadelphia College of Osteopathy. It is a preliminary report of work being carried out in the radiographic study of vertebral structure and mechanics for the purpose of obtaining a body of accurate facts concerning the actual conditions obtaining in the living human organism, which would not only add to the general fund of knowledge concerning certain phases of vertebral mechanics, but which would also be of particular value in osteopathic analyses.

It was found necessary to develop a technic which could translate the static of the ordinary examination into the dynamic concepts of mechanics, and, as well, make possible mathematical deductions which could be used for comparative study.

The authors believe that the results recorded in this preliminary report furnish a standard of normality which can serve as a basis for comparisons. These reports cover distinct studies including an investigation of intervertebral motion based upon changes occurring between adjacent vertebral bodies, a study of the location and stability of the axis for flexion and extension movement, a study of compression and decompression of the disc, and a study of vertebral body shifting in flexion and extension movement. Each of these was broken down into subdivisions and an analysis of each has been made. (An abstract of the article is found on p. 265 this JOURNAL.)

It is intended to carry out this study on the entire vertebral and pelvic structure and to give it clinical application. In fact such clinical application is already being carried out and will form the basis for future presentations on the subject.

This is one of many kinds of investigations very much needing to be done and which none except those trained in osteopathy are capable of doing.

R. C. Mc. AND R. G. H.

MODERN MEDICAL EDUCATION

W. B. Saunders Company have done the unusual in putting a splendid editorial before their patrons in the form of the foreword in one of their books.[1] Forewords and prefaces are notoriously little read, but this contribution, signed by the famous Mayo Brothers, is worthy of wide reading and study:

"The day of the old time clinical medical school has passed away. Its teachings were based on a moderate amount of knowledge of the fundamental sciences, physiology, anatomy, chemistry, and others, often taught by men who were in active medical practice, the stress being thrown on the use of that knowledge with wisdom in the care of the patient. The pendulum swung from the clinical to the academic method of medical teaching, in which knowledge was emphasized and wisdom in its application was a secondary consideration.

"The great advances that are taking place in medicine and the related sciences, in which the pure science of today becomes allied to the actual practice of medicine of tomorrow, have made it impossible to give to the medical student depth of knowledge in all branches of medical science. It has become evident that the breadth of knowledge more than its depth must guide the teaching of medicine in our medical schools. The best the medical school can do is to turn out general practitioners who have a working knowledge of the important principles in medicine, methods of clinical investigation, and a wise social understanding of those emotional conditions engendered by the ill health of the patient or the anxiety of members of his family which is so essential in applying knowledge with wisdom to individuals of varying types.

"It was a fortuitous circumstance that graduation day in our educational institutions was named commencement day, which means exactly what it says, particularly for the medical student, who now after his years of study is prepared by continuous application to further his knowledge of the ever widening field of medicine.

"Where shall the practitioner of medicine get his information? First we should place attendance on medical society meetings, the county, the state and the American Medical Association, where he will gain stimulating contacts with other physicians of all ages, exchanging views of medical practice.

"Next in educational value to the practitioner come the medical journals. Here we see the tomorrow of medicine presented and joined more or less skillfully with yesterday and today.

"As we consider, then, the need of continuous education for every practitioner of medicine, we see that of the great amount of material available, books are essential. Day by day there come to every physician patients with various forms of dis-

1. Eusterman, George B. and Balfour, Donald C.; The Stomach and Duodenum. W. B. Saunders Company, Philadelphia, 1935. (Reviewed on p. 267 this JOURNAL.)

ease of which he knows more or less in the aggregate, but of which he has not sufficiently accurate knowledge to enable him to apply the best treatment. It is in these cases that he can turn for help to those substantial books which give the experience of master physicians and surgeons who have taken the time to set down their knowledge in such form as shall enable the reader to investigate disease wisely and treat the patient properly. . . ."

CONVENTION ATTENDANCE

An ancient king is said to have insisted that all wisdom be offered up to him condensed into one word and the best which could be offered wrapped up in two syllables was "perhaps." The king who propounded that query today would doubtless find himself answered with the three-syllable word "convention."

A convention—the word explains itself to a certain not too large proportion of professional people. But there is a large proportion who have little conception of conventions. Either they never have ventured the cost of attendance or at first effort they found a gathering not up to the expected standard. Both groups continue to miss something life-giving to a profession.

Stay-at-homes are rarely self sufficient. They are absentees, when convention programs are offered, because they believe they can't afford attendance or because of failure to realize that no profession is static. The "can't afford" reason is generally, not always, one of misjudgement. Nearly, not quite, all "can't afforders" do manage many less worth-while expenditures. It is generally correct to say that no professional person ever attended a properly set up convention at any loss of income. Adding money spent to money lost because of absence for convention attendance in any five year period, the convention attender is still the gainer. Many close observers have tried both courses of action. Few (we never heard of one) will disagree with that conclusion.

And "there's reason in it." In the first place, conventions cost less for the frugal, careful attendant, than they used to. Travel is quicker. Less time is lost from practice. Fares are on the downward trend. Food and lodging can always be had to fit any pocket book. Convention locations are being selected with that in view.

Then too, more can be taken away from a modern convention than ever before. Every convention is so crowded with freely offered information, cunningly designed to be practical, useful, free of excess verbiage, that the complaint is now of too rich a diet. Speakers and exhibitors have studied to advantage the most effective time-saving methods of imparting information. Old-fashioned two-hour speeches and interminable demonstrations are prepared and then actually, without loss of content, reduced in length to twenty minutes delivery time.

The commercial exhibitor spends weeks carefully calculating the most educational, practical display of equipment and its uses. His descriptive literature is a masterpiece of succinct, practical teaching. His demonstration is really instructive.

Practically every professional convention is adding today a scientific exhibit in which visual education, so definitely absent from formal teaching ten years ago and before, is brought to a higher and higher degree of efficiency. A chart, a model, a still picture, a moving picture, a statistical table offers "take-home-able" ideas in a flash. More and more professional conventions are becoming notebook affairs.

But we have missed mentioning something gained by convention attenders. That is the advantage of getting away from work. A convention changes the point of view. How regularly the convention goer goes back to practice to find himself under the reasonable necessity of changing his line of treatment for several of his cases. A new slant, a new device, or a new principle which just fits has stimulated a new usable viewpoint. In fact the mere change of a routine of living is often worth the cost of a convention. Few realize the monotony of devotion to a profession (however varied the conditions we are called upon to meet).

It is salutary to find one's mind traveling the same road of study with many others trained alike, and soul-satisfying to find one's own mind keeping up with the crowd when new ideas and recalled ones fly fast and thick in discussion. Confidence, beaten down by many single-handed losses, is regained.

And if a convention will do all that for the physician, think of the result from the patient's viewpoint. The convention is actually designed to renew, refresh and add to the doctor's knowledge of what to do for that patient. The patient profits most whose doctor regularly brings home from a convention the consensus patiently and painstakingly gathered for presentation at the convention.

R. C. Mc.

THE 40TH CONVENTION — NEW YORK

Why does the 40th convention of the A.O.A. bid fair to be its biggest and best? There are many reasons, not the least of which is that collections are better for physicians, many of whom haven't spent any money for conventions for a long time. If their word may be taken, they can't hold off longer. Then New York is situated about midway north and south of the part of the country most completely organized in the profession. That is, a larger proportion of those practicing in that vicinity are members of osteopathic organizations than elsewhere. Therefore, a proportionately large attendance may be expected from among those living comparatively close to New York.

But New York has geographically another attendance pull. For one reason or another most

persons in America are interested in seeing New York City. Whether the location on the Atlantic, the size of the city, the attractions offered in the metropolitan area itself, or just the reputation is responsible, the attraction for just one trip to New York is undeniable. Such a convention location apparently appeals not only to physicians but even more to their families. More will register as "adult guests" and "children guests" at this convention than for a long time. That has been true of every physicians' convention held in New York for some time.

Then the finest in the way of convention facilities is offered at the Waldorf and there will be no necessity to convince prospective attendants of that. They know that in advance, without persuasion. Air conditioning, working daily, is already installed, in most of the public space. There is room to move around, however large the registration. Every section will have ample room in spite of the consolidation program of sections just being arranged and the consequent large attendance in each section.

Too, this convention will be large because of New York's reputation for varied types of amusement. Those who combine pleasure with business on such trips know without asking that the opportunities for enjoyment in New York are unsurpassed. As functions go, we predict that the President's ball in the Grand Ball Room will be an eye-opener.

Does any one suspect that we are about to omit mention of the real heart of the convention? There is no such intention.

For many months the chairman of the Bureau of Convention Program, George W. Riley, has been searching out the best possible convention program for the general sessions and the section meetings. His plan of arrangement is unique and original, something pretty hard to achieve in such a compact profession. The speakers will know how to teach. Most of them will be those actively engaged in teaching, used to making a point logically and unforgettably. There will be room for everything, a time for every event and the most compact arrangement possible is the aim. Nothing is left to chance. No one with a reputation for "running out" on a program chairman has been invited. For any necessity, equally capable substitutes stand ready to take part, not just to fill a gap but to cover the same ground.

Then this will be a large convention because of the great number of associated groups which will meet for a part of the convention time. There are many associated and affiliated groups listed in the Directory, practically every one of which is growing in membership and practically all of which will conduct their annual business or scientific session during convention week.

We doubt not that the Waldorf will house at one time more doctors of osteopathy than ever before assembled under one roof. And still every nonattendant will be missed and someone will ask for her or him and feel sorry for that absentee.

R. C. Mc.

OSTEOPATHIC NOMENCLATURE

The discussion of the standardized osteopathic nomenclature and of the history of movements toward its adoption, which appears elsewhere in this number of THE JOURNAL, makes interesting reading and at the same time calls attention to the importance of the study and use of these approved terms by our speakers and writers. Such study and use will do more than simply make a speaker or a writer better understood. In many cases it will tend to clarify the thinking of the one who makes such a study, and even tend to improve his methods of manipulative treatment.

Many an osteopathic speaker, discussing the subject of osteopathic technic, has had an auditor ask such a question as, "How do you correct a lesion of the third thoracic?" Naturally, the first reaction of the speaker is to put several questions to his interrogator beginning perhaps with, "Do you refer to a flexion or an extension lesion, or one of rotation with lateroflexion?" There are still too many in the profession, even among convention-goers, who do not clarify their questions even to that simple degree. When they have made the standardized nomenclature of lesions their own, they will be more likely to think and therefore to speak more specifically and clearly.

If in answer to such a question as, "How do you correct a lesion of the third thoracic?", a speaker should try to save time for all concerned and should simply give the principle for the correction of, let us say, a flexion lesion, and if his questioner should try it out on a patient with an extension lesion of the articulation in question, the result might well be worse than negative.

The fault is by no means confined to our own profession, but it is all too true that from the establishment of the very first school of osteopathy, too many of those in attendance have been prone simply to imitate without doing constructive thinking. Even today, for instance, too many will say, "This technic is good for kidney trouble." Perhaps the technic used is exactly what one patient needed to improve his condition, but it does not stand to reason that all patients having a disturbance in a given organ, or even a given pathological condition, have identical lesions, and it is unscientific to accept or to use any particular manipulation unless it is known exactly what it is intended to do to a particular type of lesion.

Suppose the questioner asks the speaker specifically how he would correct a flexion lesion of a

given articulation. Then, perhaps, the first counter question would be, "Is the lesion primary or secondary?" If primary, it should have concentrated attention, but if it is secondary, there must be a primary lesion elsewhere which should have first consideration.

But there is more to be considered than the type of lesion and whether it is primary or secondary. The type of technic, the degree of force, and other factors depend not only upon these two points, but in addition the question must be asked, "Is the lesion acute or chronic?" The principle of correction may be the same whichever it is, but the degree of force and frequency of treatment will vary. A related, but not identical question is as to whether the lesion is of recent occurrence—for some become chronic quickly and some remain acute for long. We need also to know the age and the general physical condition of the patient.

Every thinking osteopathic physician knows that it is not enough to tell a part of the story. We must know age and sex and other things about the patient, and many things about the lesion, before we can determine the type of technic to apply. Not only the doctors in the field, but even the students in the colleges, are continuously asking the "why" of the effects we see and of the things we do. The use of the standardized osteopathic nomenclature of the lesion will help in answering these questions.

Dr. Halladay's suggestion is decidedly in order, that we should now go on and standardize the terminology of technic, which needs such action as much as did the nomenclature of the lesion.

It is doubtless true also that the terminology relating to technic will need revision from time to time. Developing knowledge of anatomy and physiology may modify our ideas to such an extent that additions will need to be made or changes introduced.

Dr. Halladay reports that the members of the committee believed that there is no motion in the articulations of the cranium and that, therefore, there is nothing to be said about lesions there and their correction.

W. G. Sutherland has for some years insisted that such motion is demonstrable; that lesions in these articulations do occur, and that they can be and are corrected. Charlotte Weaver has lectured and given demonstrations to show that in one cranial articulation in particular lesions are fairly common, their effects widespread, and their correction, if not easy, at least far from impossible. What the final consensus will be on this point no one knows, but it is easily conceivable that the standard nomenclature will need to be enlarged to include this field, as well as that of so-called soft tissue technic.

INFANTILE PARALYSIS VACCINE CONDEMNED

The Medical Director of the United States Public Health Service in an article in *The Journal of the American Medical Association* for December 28, indicates the undesirability "at present" of vaccinating for anterior poliomyelitis. He reports a dozen cases within the past year (a large proportion of them fatal) where attacks followed intracutaneous or subcutaneous vaccination for the disease so closely as to make it almost certain that the infection resulted from the vaccination.

Results of serum treatment for the same condition have been so disappointing that many allopathic authorities advocate its discontinuance. Three men from the Los Angeles County Hospital and School of Medicine of the University of Southern California presented a preliminary report before the Health Officers Section of the American Public Health Association in Pasadena a year ago last September in which they said that in the epidemic just past there was no evidence to show that employees of the hospital who received prophylactic serum were any more immune than those receiving no serum. "In fact," they said, "the percentage of those developing poliomyelitis is higher among those who received serum than among those who did not."

Even more recently, in the Mayo Clinic number of "Surgical Clinics of North America," October, 1935, it was said: "In spite of our advancement in medical science, we are still as helpless in the face of acute anterior poliomyelitis as we were two generations ago."

In view of these things more attention should be paid to the fact that for years osteopathic physicians and surgeons have been working on the problem of the prevention and the successful treatment of poliomyelitis, and their experience has long pointed to the conclusion that the scientific normalization of body mechanics brings the best results of any known treatment.

It has long been customary for physicians of the allopathic school, including many who hold public health offices, to take advantage of every poliomyelitis scare to condemn the use of osteopathic methods, while they have gone on experimenting with methods which have too often led to tragedy.

The people should learn that osteopathy is no more necessarily harsh than surgery is. Osteopathic treatment can be just as delicate and gentle as surgery of the eye, and it can be applied to an infant a day old as well as to a football athlete. Instead of disturbing a patient suffering from fever in acute disease, osteopathic manipulative treatment properly applied, allays the pain, reduces the fever, and assists the body to overcome the disease.

The experiences of osteopathic physicians and institutions should be utilized in the search for causes of anterior poliomyelitis and successful methods of treatment.

OSTEOPATHIC RESEARCH IN SCOTLAND

The British Osteopathic Review for November reports that W. Kelman Macdonald of Edinburgh, announced at the annual convention of the British Osteopathic Association that the Scottish Osteopathic Research Institute had been inaugurated.

According to the *Review,* the medical faculty of Edinburgh University was approached on the matter of osteopathic research and permission was given to carry out such research in the University laboratories, providing it was done under the control of the heads of the departments. This was readily agreed to and then Dr. Macdonald raised sufficient funds from some of his own patients to enable him to engage the services of an experienced physiological research worker.

It is stated that a scientific advisory committee of three or four medical scientists will be appointed and the work begun in the Department of Surgery, since the head of the Physiological Department was against it in principle unless a whole team of experienced workers could be obtained.

The British Osteopathic Review goes on to say that the Marquess of Linlithgow, Chairman of the Medical Research Council, has agreed to act as Chairman of the Scottish Osteopathic Research Institute. "General Sir Robert Gordon Gilmour, Bart., Baillie Rutherford Fortune, S.S.C., and Mr. W. C. Thorne have agreed to join the Committee of Management and negotiations are proceeding with two or three other influential prospective members.

"The administration will be completed by a thoroughly representative Osteopathic Advisory Committee, consisting of: Kelman Macdonald, M.D. (Edin.), D.O. (Director), Reginald Watson, M.B., Ch.B. (Edin.), D.O., R. Hope Robertson, M.B., Ch.B. (Edin.), D.O., George Macdonald, M.B., Ch.B. (Edin.), D.O. (President British Osteopathic Association), Thomas S. Torrance, M.B., Ch.B. (Edin.), B.Sc., Wilbur Betournay, D.O., O. B. Deiter, D.O. (Editor of *The British Osteopathic Review*) and one representative from the General Osteopathic Council.

"It is intended that the research work will stretch over a period of at least seven years. It is hoped that a team of at least four experienced research workers will be obtained—an histologist, an experimental physiologist, a biochemist and a pathologist. It is estimated that a yearly sum of £3,500, or a total of £25,000, will be required. It is not intended that interest on a capital sum be used but that the capital itself be expended for the purposes of research. At the end of the investigation any money remaining will be handed over to an osteopathic clinic.

"Mr. Mackenzie Fortune, S.S.C., 40 Melville Street, Edinburgh, is acting as Honorary Treasurer."

TWO VETERANS GONE

The death of George V. Webster on December 30 removes from the field of action a man who for more than a generation has impressed his mark upon the community, not only in New York, where he spent most of his active life, not only in California, where his recent years have been lived, but throughout the nation.

Dr. Webster gave freely of his time and thought and effort to the advancement of his profession. His equable temper and kindly ways made him an unusually well-liked coworker and leader. He served the New York State society in many capacities, and also gave freely of his best thought to the many committee, bureau and department tasks assigned him in the American Osteopathic Association, and to his year in the presidency of that body.

He was a constant student, an ardent advocate of the principles of osteopathy, not confining his attention to mechanical lesions, but stressing the importance for the maintenance of immunity, of proper living habits, with much emphasis on diet. He never neglected the mechanical phases of osteopathy, nor was his interest in them academic. He was an unusually successful technician.

Dr. Webster was a clear and lucid speaker and a convincing writer. In recent years he was a member of the faculty of the College of Osteopathic Physicians and Surgeons. Unnumbered convention programs were better because of his contributions. Osteopathic periodicals for years were glad to carry his articles, even as this number of THE JOURNAL does. His books for the education of the laity ran into many editions and totalled probably tens of thousands of copies. Another interesting and significant product of his writing ability was the original manual of procedure of the American Osteopathic Association.

Perhaps in the long years to come, it will be found that his most outstanding contribution to his times is found in his practical application of the advantages of visual education in osteopathy. He saw what could be done in the way of motion pictures to make clear the principles and practice of osteopathic diagnosis and therapeutics, and with Ralph W. Rice worked out a few of what was to be, and doubtless will be, an outstandingly valuable series of educational films.

Preceding Dr. Webster by less than a week, Reginald Platt, Sr., died on Christmas eve. The work of Dr. Platt was quieter, less in the limelight, less varied. But in his characteristic way he made his mark in Minnesota, in Missouri and in Texas. His appearance on a convention program was always an event for those who heard him. An article from his pen always conveyed information and stimulated thought. The many who sat at his feet in the classroom at Kirksville and heard his simple, straightforword exposition of osteopathic truth, had an experience never to be discounted or forgotten.

Public Relations Committee

CHESTER D. SWOPE
Chairman
Washington, D. C.

OSTEOPATHY AND POSTAL WORKERS

The Railway Mail Association at its convention held in Chicago in October amended its constitutional provisions relating to its beneficiary department, which had been interpreted in such a way as to outlaw all medical claims certificates other than those signed by M.D.'s.

Another group of Post Office Department workers vitally interested in osteopathy is the National Association of Letter Carriers. At its convention held in Cleveland in September, it adopted the following resolution:

"Whereas under our present compensation laws the government assumes liability for and supplies medical treatment and care of injuries to employees incurred in line of duty by medical doctors only; and

"Whereas our state medical board gives recognition to osteopathic practitioners, and

"Whereas we believe osteopathic treatment more desirable and effective in certain cases of injury and should be supplied by the government when in the judgment of the injured and his supervisory officials, recovery can be more readily obtained; therefore, be it

"Resolved, That we instruct our national officers to use their best efforts to secure from the government, recognition of the osteopathic practitioner and furnish his service when desirable."

Department of Public Affairs

E. A. WARD
Chairman
Saginaw, Mich.

BUREAU OF INDUSTRIAL AND INSTITUTIONAL SERVICE

WILLIAM O. KINGSBURY
Chairman
New York

J. J. McCORMACK
Vice Chairman
Sheboygan, Wis.

CONCERNING THE INDUSTRIAL QUESTIONNAIRE

The admirable questionnaire devised by J. J. McCormack, published in the December JOURNAL, for reporting industrial injuries is one to which all osteopathic physicians are urged to give close attention. If all who can do so will send in reports of industrial cases, as outlined on this questionnaire, the Bureau of Industrial and Institutional Service, which is seeking with intelligence and vigor to serve the whole profession, will have a large number of case records which the insurance companies can verify from an examination of their own files.

For example, if out of the large number of reports collected there are 100 which were insured by the ———— Casualty Company, the attention of this company would be called to these cases and data given which would enable the owners easily to examine our claims. If, upon examination, these records showed a reduced expense and a period of time lost below the general average for similar cases, this should be very convincing to the officers of the ———— Casualty Company. They should also be convincing to compensation commissioners to whom they would be shown, and to employers and to organized workers as well.

This is what E. P. Malone meant in his back injury article in *The American Federationist* in the paragraph which reads:

"Records of these cases are hidden away here and there in the files of the insurance companies. It is evident that no comprehensive examination of these records and no adequate trial of this treatment have ever been made for the purpose of comparison else the insurance companies would not continue to pay four times as much for back injuries as for other injuries."

This is a challenge to the insurance companies to examine the records of our cases.

Another very important point is made in the article on page 198 of THE JOURNAL for December, dealing with the reporting of industrial cases, in these words:

"Do not allow deep therapy or other physiotherapy measures to appear as the sole or major treatment. This Bureau contends that ours is a distinctive treatment which materially shortens the disability period."

Every osteopathic physician knows that heat, liniment, and strapping are not the treatment which returns the worker with an injured back to his job. If they were, then there would be no reason whatever for asking that any part of industrial practice be referred to us, for all physicians have access to these measures. The injured themselves can use them without the aid or consent of any physician, and thus they may be classed as home remedies. They may help, but they do not cure.

We know that it is the correction of joint lesions which puts the injured man back to work. This is done so easily and quickly in many instances that we are prone to minimize its importance. But let us not forget that it is the one procedure upon which we can base our claim properly and convincingly for superior service.

The osteopathic physician alone has the knowledge and skill properly to treat industrial back injuries. Let us emphasize this fact in all our educational efforts. Only thus will we inherit that large part of industrial practice to which we are entitled.

Department of Professional Affairs

C. H. MORRIS
Chairman
Chicago

COMMITTEE ON SPECIAL MEMBERSHIP EFFORT

F. A. GORDON
Chairman
Marshalltown, Iowa

MEMBERSHIP STATUS

While membership gains for November do not show the total results of the recent group conferences which took the form of a speaking circuit through Milwaukee, Minneapolis, Des Moines, Omaha, Kansas City, and St. Louis, yet a steady gain is registered from all sections of the country. To date forty-two divisional societies have advanced their membership since August 1. December 1 finds 545 more members than belonged on the corresponding date last year. Is your divisional society one of the nine yet to be listed in the groups below? Remember that the A.O.A. is *your* organization. It stands ready to do the many things you wish done, but such wishes must bear with them added membership strength! May your informed enthusiasm burn strong enough, that from it others will light their candles.

On the basis of membership of the various chartered divisional societies as of August 1, increases have been received from three more societies than last month, or from a total of forty-two up to November 30. These are grouped here according to size, setting forth the percentage membership gain for November 1 and December 1 over what it was

on August 1. Group A includes all societies reporting and known to have a potential membership of 200 or more; group B, those from 100 to 199; group C, those from 50 to 99; group D, those with less than 50.

MEMBERSHIP GAINS SINCE AUGUST

Group A (200 or more) Societies	Gain Nov. 1	Gain Dec. 1
Iowa	18.8%	20.9%
California	11.3	15.8
Michigan	9.7	12.1
New Jersey	10.3	11.4
Texas	11.3	11.3
Missouri	8.7	9.2
Illinois	7.8	8.2
Pennsylvania	5.7	7.
New York	6.1	6.1
Massachusetts	5.5	5.
Kansas	4.9	4.9
Ohio	2.2	2.5

Group B (100.-199) Societies	Gain Nov. 1	Gain Dec. 1
Wisconsin	11.8%	18.4%
Maine	14.6	16.
Florida	11.1	13.8
Indiana	8.6	10.1
Washington	6.3	9.5
Colorado	8.3	8.3
Other Countries		8.
Oklahoma	5.3	4.5
Minnesota	1.3	4.
Nebraska	4.4	2.9

Group C (50-99) Societies	Gain Nov. 1	Gain Dec. 1
Georgia	36. %	36. %
Kentucky	25.	25.
Rhode Island	16.6	20.8
Tennessee	10.3	10.3
England	10.	10.
Montana	9.7	9.7
South Dakota	2.9	8.8
Oregon	6.6	6.6
Idaho		5.5
Connecticut	1.9	1.9

Group D (Less than 50) Societies	Gain Nov. 1	Gain Dec. 1
Louisiana	71.4%	71.4%
Alabama	33.3	33.3
Saskatchewan		33.3
New Mexico	15.7	31.6
Utah	25.	25.
Quebec	25.	25.
Virginia	13.3	13.3
Maryland	7.1	7.1
New Hampshire	6.6	6.6
Vermont	5.2	5.2

The most important service you as a possessor of full membership (i. e. A.O.A., state, and local), can give to organization progress, is to resolve now that you will each month hunt down and bring one apathetic doctor to realize that his most personal interests demand immediate affiliation in all these related osteopathic organization units.

Your organization machinery stands ready for added service as such resolutions certify that desire.

F. A. G.

BUREAU OF HOSPITALS

EDGAR O. HOLDEN
Chairman
Philadelphia

HOSPITAL INSPECTION PLANS TO BE EFFECTED

The Southwestern Osteopathic Sanitarium and Hospital, Wichita, Kansas, of which H. C. Wallace is president, appears to be the first osteopathic hospital in line for registration and approval for internship training at the hands of the Bureau of Hospitals of the A.O.A. and by the American College of Osteopathic Surgeons. Inspection of this institution took place early in October at the time the American College of Osteopathic Surgeons was there in annual convention. While there remains to be filed certain statistical information pertaining to the activities of the institution for the past fiscal year, matters are progressing to the point where official recognition by the rating authorities may be expected shortly.

Inspection of the Southwestern Hospital was the forerunner of a proposed program of systematic examination of the teaching hospitals of the country. Plans for this purpose were adopted at Cleveland by the Trustees and House of Delegates of the A.O.A. and concurred in subsequently by the American College of Osteopathic Surgeons in their sessions at Wichita. Expenses incident to the visitation by hospital examiners to the several institutions will be borne jointly by the Association and the College. A Committee of hospital examiners has been named as follows: Orel F. Martin, Boston; John E. Rogers, Oshkosh, Wis.; H. C. Wallace, Wichita, Kan.; Edward S. Merrill, Los Angeles; Edgar O. Holden, Philadelphia.

A comprehensive joint hospital inspection report has been drafted and submitted to proper officials of the Association and of the College with a view to having findings recorded uniformly for all hospitals visited. Heads or superintendents of the various institutions will be furnished with copies of the blanks that must be executed at the time of examination. The information required pertains to (1) volumes and types of service rendered; (2) physical plant and facilities; (3) organization; (4) staff meetings and clinical conferences; (5) laboratory; (6) necropsies; (7) Roentgen ray; (8) anaesthesia; (9) obstetrics; (10) dispensary service; (11) nursing service; (12) osteopathic service; (13) hospital library; (14) research; (15) histories and records; (16) intern service.

RECOGNITION OF HOSPITALS IN NEW JERSEY

The State Board of Medical Examiners of New Jersey, in connection with fulfillment of requirements of Chapter 226, P.L. 1935, have stipulated that an approved hospital shall be held to be one approved by the State Board of Medical Examiners of New Jersey. The State Board may, in determining its approval, accept any or all of the following:

1. Approval by the American Medical Association.
2. Approval by the American College of Surgeons.
3. Approval by the Bureau of Hospitals of the American Osteopathic Association.
4. Approval by the Associated Hospitals of Osteopathy.
5. Approval by the American College of Osteopathic Surgeons.
6. Approval by the N. J. Osteopathic Society.

E. O. H.

BUREAU OF CONVENTION PROGRAM

GEORGE W. RILEY
Chairman
New York

FRED M. STILL NAMED ASSOCIATE PROGRAM CHAIRMAN

The Executive Committee has confirmed the action of First Vice President John E. Rogers in naming Fred M. Still, Macon, Mo., Associate Program Chairman. Dr. Rogers' action was taken following his receipt of a letter from Dean Edgar O. Holden, of the Philadelphia College, reading in part as follows:

"I believe you are sufficiently familiar with my situation down here to know that I am literally swamped at all times with duties and responsibilities. Frankly, I am constantly on the lookout for members of the profession and others who are qualified and capable of relieving me of some of the overwhelming details of the composite kind of job that I happen to have.

"Will you consider releasing Ralph L. Fischer at once from the job of Associate Program Chairman, that is, liberating him from the actual job as Program Chairman for next year? I fully appreciate the fact that I am asking considerable of you in such a request and at the same time want you to know that we will not press the issue if you find that you are flatly up against the impossible in the matter of a suitable replacement for the job.

"I scarcely need to tell you that Dr. Fischer occupies a place of high importance with me in my administrative scheme of things. The calls being placed upon him are so ever increasing in scope for the institution here, I do not see my way clear to release him from any of the things that I would expect him to be doing, let alone the placing of added ones upon his shoulders, for extraneous work of any sort. You will understand that it is a source of regret to me to feel compelled to have him stay out of your endeavor when I selfishly mean to use him myself, but feel you will appreciate the whole situation."

1936 A.O.A. Convention in New York City

BRING THE FAMILY

As a result of close cooperation between the members of the newly formed Osteopathic Women's Auxiliary of New York City and the program chairman, time will be made available during which the families of those physicians who will attend the A.O.A. convention next July may visit the more important points of interest in New York City. It is not the intention of the Auxiliary to have all of the free time planned for, although certain definite plans will be made. In the main, the convention guests may decide for themselves the places they wish to visit and then avail themselves of the information and facilities which will be ready for them. Hostesses will be on hand to confer with all visitors, aiding them in making the best possible use of their time. Certain "high spots" of interest will command the attention of all. The newer attractions will come first, and as New York literally is rebuilding itself every day, these attractions will be many in number.

The Waldorf-Astoria hotel itself will be new to most of those attending the convention. Then almost within a stone's throw—oh, well, not more than three or four throws—are Radio City (better known to many as Rockefeller Center), Tudor City, the Empire State building, the theatrical district, and the New York Central and Pennsylvania Railroad stations. At the northern tip of Manhattan Island is New York's newest, and in some respects its most attractive, park—Tryon Park—developed, beautified, and recently presented to the city by John D. Rockefeller, Jr. Just below the park the George Washington Bridge crosses the Hudson River. Coming back downtown one finds the new Planetarium, the Metropolitan Museum of Art, on Fifth Avenue, and across Central Park the Museum of Natural History. There is the Jumel Mansion, Poe's Cottage, Trinity Church, St. Paul's Chapel in which is still preserved George Washington's pew, the Cathedral of St. John the Divine which has been under construction for forty years and is still far from completed, St. Patrick's Cathedral, and other church buildings of historic importance. Back in the Wall Street district is Fraunces' Tavern, and the Aquarium; out in the Bay is Governors Island and, facing it, the Statue of Liberty. This list, already too long, is only a fraction of that which will be available to the visitors at the convention.

Mothers with children—not infants—will have no need to worry about them. A playroom at the Waldorf-Astoria will assure their care and continued amusement.

HELEN M. DUNNING

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- *(b)* Athletics
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National Board of Examiners for Osteopathic Physicians and Surgeons

CHARLES HAZZARD
President
New York

NATIONAL BOARD EXAMINATIONS

The first examination by the National Board of Examiners for Osteopathic Physicians and Surgeons will be held in the various osteopathic colleges on Tuesday and Wednesday, February 4 and 5, 1936. Part I, only, will be given at this time. The complete schedule was given in the December number of THE JOURNAL, page 200. Application blanks may be secured from Asa Willard, Missoula, Montana, Secretary-Treasurer of the National Board of Examiners for Osteopathic Physicians and Surgeons. These must be sent to the secretary, accompanied by a registration fee of $5.00 and an application fee of $15.00.

In last month's announcement it was stated that the certificates are of an honorary nature only, since there are no laws as yet to give them legal force. The word "honorary" should not be misunderstood. The examinations are intended to be a real and well-considered test of knowledge and ability, such as state boards will be glad to honor, but the certificates are not in any sense licenses to practice.

JOHN E. ROGERS, Chairman
Committee on Examinations

STATE LAWS AND THE NATIONAL BOARD OF EXAMINERS

ASA WILLARD, D.O.
Missoula, Mont.

Pursuant to the suggestion of Charles Hazzard, president of the National Board of Examiners for Osteopathic Physicians and Surgeons, I outline briefly factors to be considered in changing state laws to permit the recognition of certificates from our national board. In some states a few words added to the law is all that would be necessary.

For instance, at random I pick up a copy of a state law. It is West Virginia, which has an independent osteopathic board. I quote the reciprocity section in full:

> Section 8. Issuance of License without Examination.—The state board may at its discretion issue a license, without examination, to a practitioner who has been licensed in any county, state, territory, or province, provided the requirements for registration in the county, state, territory, or province in which the applicant is licensed, are deemed by the state board to have been practically equivalent to the requirements for registration in force in this State at the date of such license.
>
> The state board may also, at its discretion issue a license, without examination, to an osteopathic physician who is a graduate of an osteopathic college in good standing, and who has passed the examination for admission into the medical corps of the United States army, United States navy, or the United States public health service.

All that is necessary in that law is to add to the second paragraph of the section the following words: "or who holds a certificate from the National Board of Examiners for Osteopathic Physicians and Surgeons."

The arrangement for the recognition of those other examinations simplifies the proposition.

The next state law noticed is Kansas. Its reciprocity clause reads:

> Provided further, That the board may, in its discretion dispense with an examination in the case, first, of an osteopathic physician duly authorized to practice osteopathy in any state or territory or the District of Columbia or any foreign country, who presents a certificate of license issued after an examination by a legally constituted board of said state, territory, District of Columbia, or foreign country, accorded only to applicants of equal grade with those required in this state; . . .

It will be entirely adequate to insert after the word "physician" the words: "who has been granted a certificate by the National Board of Examiners for Osteopathic Physicians and Surgeons or who is" . . .

The phraseology of the reciprocity clause in many state laws is such that a general rearrangement of the wording will be necessary. Some emphasize, for instance, the reciprocity angle, i. e., that licenses can be issued without examination to applicants from other states only when the standards are equal and when these states will in turn recognize the license issued by the reciprocating state. That is reciprocity, of course.

The insertion of the proviso that a license without examination can be issued "to an osteopathic physician who has been granted a certificate by the National Board of Examiners for Osteopathic Physicians and Surgeons" should be accomplished without confliction with the other language of the section amended or of other parts of the law. Thinking of the long distant future, "of the United States" might be added, but the omission of that will offer small possibilities of future complications; and the less words used to accomplish the purpose clearly the better in any law making.

If a basic science board law recognizes the National Medical Board, changing it so that it recognizes also the National Board of Examiners for Osteopathic Physicians and Surgeons can be done by inserting but a few words. For instance, the Minnesota basic science board law reads:

> The State Board of Examiners in the Basic Sciences may issue a certificate of registration in the basic sciences without examination therein to an applicant who presents sufficient and satisfactory evidence of having passed examinations in the basic sciences as defined by this act before the National Board of Medical Examiners . . .

All that would be necessary, then, to recognize our national board would be to add to the part quoted the words: "or National Board of Examiners for Osteopathic Physicians and Surgeons."

When a bill for a new osteopathic act is being presented the recognition of our national board should of course be incorporated. Last winter (1934), with the thought that the osteopathic law in the new Montana state code which was being compiled should be clearer as to our rights and privileges, a complete bill was presented to the Montana legislature. Due to a combination of circumstances it failed to pass before the session closed. It contained this clause:

> Every graduate of a recognized and regularly conducted college of osteopathy who has been strictly examined and thereafter granted a certificate to practice his profession in another state or granted a certificate by the National Board of Examiners for Osteopathic Physicians and Surgeons may be issued a certificate to practice his profession under this act upon the presentation, to the Board, of his diploma and the certificate obtained in such other state or the certificate from the National Board of Examiners for Osteopathic Physicians and Surgeons, and satisfactory evidence of good moral character, and the payment of all fees required of other applicants; but the Board may examine the applicant as to his or her qualifications.

That is a very good clause—incidentally, it is not a "reciprocity" clause at all. It is a clause for the recognition of other certificates.

It should be kept in mind that it is not a "license" which a physician, successfully passing its tests, receives from the the national board. It does not license the holder to do anything any place, and the United States government is not responsible for it in any way. Exactly the same is true of the credentials issued by the National Board of Medical

Examiners, which has been functioning now for twenty years, having been organized in 1915.

The certificate received from the national board is evidence that the one to whom it was granted has been thoroughly tested by what is recognized as the highest examining body in the profession, and found well qualified in all subjects knowledge of which is required in the practice of his profession. The authorities of the various states in accepting this certificate of the national board recognize that the one to whom it was granted has been tested adequately as an osteopathic physician in so far as examinations can test and that any further examination would be superfluous.

Therefore, without examination, the state board grants him a license to practice in the state in question after he has shown his possession of the credentials which the particular state requires as to preliminary, preprofessional, professional education, and internships.

When conditions in a state are unfavorable at a given time to opening up a law for amendment, the amendment recognizing the national board, of course, should be held in abeyance until a more favorable time. As a favorable opportunity presents, however, we should utilize it to make the necessary amendment, and when any bill for a new law is presented, recognition of the national board should be incorporated.

In a few states the examining board itself would have the power to recognize our national board without any change in the present wording of the law. If that happens to be the situation in a given state the matter of recognition should be approached by our people in that state from that angle. The Indiana mixed board recently received advice from their attorney-general to guide them in recognizing the National Board of Medical Examiners. The same procedure would apply, in that state, to the recognition of our national board.

The year 1936 will see few state legislatures in session. The legislatures of Massachusetts, New York, New Jersey, Rhode Island, and South Carolina will meet, as they meet every year. Less than a half dozen others will meet in 1936. In 1937 and on all odd-numbered years, all but a few of the state legislatures meet. Those years will be full of opportunity and activity. The matter of recognition of the national board should be in mind and considered beforehand.

Wilma Building.

Athletics and Acute Injuries Section

C. R. STARKS
Chairman
Denver

ACUTE ATHLETIC INJURIES AND THEIR CARE*

JAMES MADISON EATON, D.O.
Upper Darby, Pa.

Any portion of the body, skeletal or visceral, is subject to injuries in athletic contests, but fortunately relatively few are serious. Because of our knowledge of the parts of the body liable to injury, measures may be taken to protect these regions. Prophylactic measures should occupy our fullest attention. Close application to detail in the prevention of injury will repay both the physician and the athlete.

When assuming charge of a group of athletes, one should always have a definite understanding with the coach, players, and all other interested individuals, that the physician only will determine the physical fitness of the contestant as to whether or not he may play. The eager youngster must be protected against further injuries to himself, while the overzealous coach must not be allowed to jeopardize the future health of the player. Both may visualize their chance for glory slipping, but if a body broken in health is to be the end result, such considerations are of little consequence.

All too frequently we come in contact with men, former athletes, who are permanently incapacitated because of injuries received on the field. Such injuries may interfere seriously with the usefulness of that individual in his later life. To see the permanently injured feet, knees, backs, shoulders, elbows, and hands of former athletes makes one pause and wonder whether our system of organized play and exercise or our system of caring for these men, is at fault. Defects may be found readily in both.

Given a normal, active, healthy youth, accidents are bound to happen to him. How to mitigate them and how best to care for these common hazards is the purpose of this article.

Paramount in the prevention of athletic injuries, is the physical condition of the individual player. A complete physical examination should be given every participant before and during the season, a careful record of the results being noted. Physical defects encountered should be brought to the attention of the parents as well as of the coach, and if possible a consultation with the family physician would be advisable before allowing the boy to participate in any athletic contest.

We have noted time and again that where there is close cooperation between coach, family, and team physician, fewer permanent injuries are sustained and a higher degree of efficiency is maintained throughout the season of play, than ever before.

Of prime importance in any sport, to insure against injury, is the wearing of proper equipment. Equipment is usually designed to protect the individual against injuries common to that particular sport. Again, we have noted that where proper equipment is insisted upon during the course of play, fewer incapacitating accidents were encountered. Frequently we see players during the heat of the game, rip headgear and paddings from their uniforms to facilitate movements. Then, not being protected from the natural hazards of the game, they are more liable to injury.

Many portions of the body are poorly equipped by nature to withstand the stress and strain placed upon them during the course of athletic play. The frequency of injuries to the hands and wrists, ankles and knees, should indicate the necessity of guarding against injury to these parts. Especially is this true where there is a history of previous injury.

No injury is too small or slight to receive attention. Too often we are prone to ignore minor injuries, by stating that a man must expect to get hurt somehow, sometime, while playing. But, when these minor injuries result in permanent disability, we realize this attention to detail is not unwarranted.

A normal, flexible muscle will not develop a "charley-horse," but a muscle that is stiff, hard, and contractured is prone to develop that disabling injury. Fractures in and about a joint are more apt to occur when the muscles that control that joint are not flexible. Muscle strains and sprains occur with less frequency in normal than in abnormal muscles. Previous minor injuries to muscles make them unfit at times to take up the additional strain required in sudden muscular effort.

A bruise is a hemorrhage beneath the skin. If the hemorrhage be large, a clot forms, which later becomes absorbed, resulting in a mass of hard, fibrous, scar tissue. If the hemorrhage is in the muscle fibers, the resulting fibrous tissue may seriously interfere with the action of that muscle, and make an arm or leg stiff and painful on motion. Hence it is necessary that these contractured muscles be treated to return them to their normal, flexible

*Delivered before the Athletics and Acute Injuries Section of the Thirty-Ninth A.O.A. Convention, Cleveland, 1935.

state. Treatment instituted soon after injury, and in sufficient quantity, is the best means to relief.

Injuries of this type, as well as injuries to the pelvis and back, have been treated successfully by osteopathic measures. Treatments on the field have been supplemented by baking, infra-red radiation, and other physiotherapeutic measures. In my opinion superficial massage and alcohol rubs are practically worthless in the relief and treatment of muscle and joint injuries.

Again, let me emphasize careful attention to details. Practically all injuries to the head, shoulder, knee, and ankle should have the benefit of x-ray examination. Frequently, in the past, we have found that the so-called "stubborn sprained ankle" cases were actually fractures of the distal end of the tibia or fibula, and that neglect and improper treatment resulted in permanent disability of that joint. Then, too, small pieces of bone are often pulled away from the shaft by strong muscular contractions, and these can only be diagnosed by x-ray examination. Where there is the least suspicion of the possibility of serious injury, it is criminal negligence to delay x-ray study of the injured part when x-ray is available.

The pernicious habit of teammates of ruthlessly twisting and jerking an arm or leg on the field before careful examination has been made, is to be condemned. If there is the least question or doubt in mind as to the possibility of injury, the injured member should be kept at rest until it can be examined by a competent physician.

Strains and sprains of the foot and ankle are quite common. One must keep in mind the possibility of minor subluxations of the talus on the tibia. The anterior variety of subluxation is encountered most frequently in the absence of fracture, while other varieties usually accompany fracture of the tibia or fibula.

Practically the same mechanism producing ankle sprain, i.e., with the foot in inward rotation and supination, ofttimes will produce fracture of the proximal head of the fifth metatarsal. We have encountered this fracture quite frequently in baseball and track, and I mention it here because of a series of cases that recently came to our attention, previously diagnosed as "sprained ankle." Roentgenographic examination confirmed our diagnoses. The same general outline of treatment is used as in treating fracture of the tibia or fibula, i.e., ambulatory plaster of Paris cast with ankle brace for four weeks, followed by supplementary basket-weave adhesive strapping for a week or ten days. Little or no deformity, usually, results from this fracture.

Strains and sprains of the foot and ankle are treated by immediate support with a basket-weave adhesive strapping, allowing the patient to walk, unless the pain is too severe. This type of adhesive support allows for subsequent swelling, without the danger of embarrassing the circulation, and in addition prevents any lateral motion at the ankle joint and permits only slight flexion and dorsiflexion. We have found that when the patient is allowed to be ambulatory, his period of convalescence is materially shortened.

Fractures of the tibia and/or fibula at the ankle joint are quite common in all types of athletics. We have used the following routine with considerable success: Immediately after the injury, the foot is held at right angles to the leg, immobilization effected by means of a posterior metal or posterior plaster of Paris splint. When the swelling has subsided, usually within a week, a solid plaster of Paris cast with ankle brace is applied to the foot and leg. Care must be taken to keep the foot at right angles to the leg and to keep the ankle brace on a line corresponding to the long axis of the tibia and fibula.

The ankle brace consists of a U-shaped piece of band iron (three-sixteenths by one and one-quarter inches) four inches across at the bottom, the uprights being about fourteen inches. The thrust of weight bearing is taken off the ankle and transmitted to the middle of the leg, thus no further injury is suffered by the fractured parts.

After the cast is hardened, usually within 48 hours, the patient is allowed to walk about. For convenience, and to prevent secondary or compensatory scoliosis, the shoe on the well side should be built up to compensate for the increased length in connection with the injured leg.

The cast is usually removed after four weeks of immobilization, and a basket-weave adhesive strapping applied at intervals of four days (four days with adhesive followed by four days without adhesive), for a period of two or three weeks. Little or no difficulty is encountered with mobilization of the foot and ankle, because of the fact that the muscles of the leg are kept in constant activity throughout the convalescence, thus preventing atrophy from lack of use. Passive motion may be necessary to break any adhesions in the talotibial articulation.

With a history of previous injury to the ankle, one may assume that the ligaments supporting that joint have been ruptured. We recommend that some type of supporting bandage be applied to these patients before they indulge in athletics, to prevent further injury. A very satisfactory type of support may be made by splitting a two-inch strip of adhesive, 16 inches long, about half its length, leaving the remainder full width. One of the narrow ends is attached to the outer aspect of the leg, in the long axis, the full width starting about the level of the external malleolus, sweeps under the foot, up and over the dorsum in the direction of the first narrow strip. The second narrow strip sweeps over the dorsum of the foot to the inner side of the foot and ankle, anchoring the end of the broad strip. The foot is to be inclined toward the affected side. This type of support may also be made of "Elastoplast," an adhesive, woven, elastic bandage, or a woven anklet may be worn.

The region of the knee joint is subject to both direct and indirect injury. After the knee joint has been injured, there is always a tendency to recurrence, but the subsequent trauma need only be trivial to aggravate the condition. Probably the most common involvement is an inflammation of the synovial membrane or bursa. The development of adhesions between the joint surfaces must be guarded against. Hemorrhage into the joint cavity occurs in a majority of cases, and the organization of the resultant clot probably is a forerunner of adhesions. Our treatment must be directed towards the reduction of inflammation and its products, and the prevention of adhesions.

Different methods of applying pressure bandages have been used, but because of the danger from impairment of circulation, some of them are not safe. We recommend two methods of pressure bandaging.

First method: Three rubber bath sponges, about two inches thick and six inches in diameter are obtained. Elliptical pieces are removed from two of the sponges, and these fitted about the lateral margins of the patella. The third sponge is placed in the popliteal space to guard against compression of the vessels in that region. The three sponges are applied, and held fixed with a rather tight muslin or "Elastoplast" bandage, the entire bandage being reinforced with strips of adhesive. The bandage is removed and replaced about every four days, the treatment continued until the effusion has subsided and pain has disappeared. Usually five or six weeks is sufficient. If the effusion is severe, aspiration is usually resorted to on the first visit, but in moderate cases is not essential, as the constant, "massaging" pressure (as the thigh muscles are used) hastens the resorption of the exudate. The patient is urged to walk about, and is usually able to do so, because of the support given him.

Second method: A strip of five-sixteenths or one-half inch felt is cut in the shape of a letter H, the longitudinal bars being about three or four inches high and two inches wide, while the connecting horizontal bar is two inches

wide and is long enough that the longitudinal bars touch the margins of the patella, passing behind the knee joint. The pad is fixed in place with an "Elastoplast" or elastic bandage, being applied so that considerable pressure is put upon it.

Supplementary treatment consists of active and passive motion, heat, diathermy, and massage. Both of these methods prevent the development of adhesions because the patient is allowed to walk about, and in many instances has continued working, in spite of what might be considered a disabling injury.

The semilunar cartilages and lateral ligaments are frequently involved. Injury takes place usually while the foot is planted firmly on the ground and abducted, the knee usually slightly bent, the thigh adducted and the body on the swing. The patient suddenly experiences severe pain over the inner side of the knee. The knee may become locked for some time in slight flexion, but this is not a constant symptom. Many of these knees reduce themselves before examination, and the treatment then consists of caring for the synovitis and support of the joint.

A method we have used to reduce a slight subluxation of the meniscus is as follows: With the patient in the sitting position, feet and legs hanging over the side of the table, the foot is held between the knees of the operator, the thumbs are placed over the lateral margin of the meniscus, pressure being directed inward, the tibia is gently rocked on the femur in all directions, the meniscus slipping into place gently, usually without audible snap. Anesthesia is rarely required. One must always keep in mind the possibility of minor subluxations and rotations of the tibia on the femur in knee injuries, the treatment for which has been discussed previously in these columns.

Chronic cases are prone to develop joint "mice" or foreign bodies within the joint space. These cases are usually classified as an osteochondritis dissecans, pieces of the cartilage becoming dislodged and migrating into the joint cavity. Their treatment is surgical.

A case of chronic joint injury has recently come to our attention, in which the diagnosis of foreign body was made. The patient was operated upon, and a subsequent diagnosis of giant cell sarcoma had to be made, the pathology apparently arising from the synovial membrane. It is well to keep in mind this possibility. The importance of x-ray examination of these cases cannot be too strongly emphasized, not only from the diagnostic standpoint, but because of the medicolegal angle.

The muscles and fasciae of the thigh are prone to strain and actual rupture. Even though the muscle fascia and fibers remain intact, hemorrhage is quite common within the muscle, following severe strain or direct traumatism. It is important in these cases to minimize the formation of scar tissue. The less scar tissue formation, the better the function.

We usually have these patients rest in bed until the hemorrhage stops. Then hot and/or cold compresses are applied to relieve pain, and the affected part massaged vigorously between the application of compresses. We have used an ordinary rolling pin for this purpose with excellent results. Naturally the pain is aggravated while the thigh is being massaged, but the end results will compensate the patient for any distress that he may have. This treatment is continued for several days or until much of the pain has subsided. The patient is then allowed to get up and walk, a pressure bandage being first placed over the affected area. This pressure bandage consists of a piece of sponge rubber two inches in thickness cut so that it overlaps the area about two inches, fixed by means of an elastic bandage or preferably "Elastoplast." Crutches may be necessary at first, gradually eliminating their use. The above treatment is usually supplemented by diathermy or infra-red radiation.

When the fascia has been ruptured and a hernia of the belly of the muscle results, the treatment is surgical. All of these cases of ruptured muscles must be watched carefully for infection, even though the skin has not been broken. A blood clot is an ideal place for the growth and reproduction of infective microorganisms, and a deep subcutaneous abscess might easily develop. The treatment, of course, is incision and drainage.

I have observed, recently, several cases of extreme spasm of the adductors (longus and magnus) of the thigh, from very trivial strain, such as that suffered by a "backseat driver" in applying imaginary brakes to an automobile. Such lesions are probably the result of muscular weakness.

Low back strain and sacroiliac strain are encountered quite frequently. These cases are apt to be neglected, especially if one is not trained to detect the specific, underlying etiology. If neglected, repeated injury may give rise to a marked degree of functional disability, and the individual's power of locomotion is reduced. However, under intelligent osteopathic care, no difficulty is encountered after the condition has been properly treated.

In cases of long standing low back pain, especially with a history of a forceful landing on the heels or on the buttocks, one must always keep in mind the possibility of compression fracture of one or more of the lumbar vertebrae. These fractures occur with more frequency than is commonly supposed. In many instances the patient does not have spinal cord compression symptoms, and the condition might easily escape detection. Then, too, x-ray examination of these cases immediately after the accident, may be essentially negative, but six months or so later show marked compression of the body of a vertebra.

Fracture of the transverse process of a vertebra usually occurs when the patient attempts to save himself from a fall or from direct violence. The treatment is rest, and fixation by means of plaster of Paris jacket or shell, followed by suitable brace.

Injuries to the ribs consist of fracture, separation at the costochondral juncture and separation at the sternochondral juncture. X-ray study is necessary to confirm the diagnosis and to determine position of the fragments. For treatment we have been using "Elastoplast" bandage, completely encircling the chest wall, using about three or four strips, beginning and terminating the bandage on the well side of the chest. This type of bandage gives the needed support, and is far more comfortable than the nonflexible adhesive. We usually remove and renew the bandage at least once a week, cleansing the skin with ether and alcohol, and painting with compound tincture of benzoin before reapplying. This latter procedure is followed in all cases where adhesive materials are used, as it reduces to a minimum the skin irritation.

With all dislocations and fractures of the upper extremity, we attempt to keep the patient ambulatory, unless the fracture is badly comminuted or difficulty is experienced in keeping the fragments in alignment. Some type of removable apparatus is preferred, in order that massage, active and passive motion, and other physiotherapeutic measures may be used to shorten the convalescence. Where difficulty is experienced in maintaining alignment, we have applied a plaster of Paris cast of slow-setting plaster, reduced the fracture under the fluoroscope, and maintained the reduction until the plaster has hardened. By means of special cast cutting instruments, the cast may be split at any time to allow manipulation, and then be reapplied.

A blow on the tip of the extended finger, commonly known as "baseball finger" should receive careful attention. Many of these cases are actually longitudinal split fractures of one or more of the phalanges. X-ray examination should follow such injuries. The ruthless twisting of such fingers, before adequate examination, has probably resulted later in many cases of hypertrophic arthritis of the affected joint. If a fracture exists, it should be

treated as such. After the fracture has healed, then the part may be mobilized, under anesthesia, if necessary.

The navicular or scaphoid bone of the wrist has been found fractured rather frequently, following a fall on the outstretched hand. Forcible mobilization of the wrist following injury should be delayed until this possibility can be ruled out.

There are many other injuries to the athlete which develop some time after the game, particularly injuries to the soft tissues of the upper extremity and visceral injuries. With the exception, possibly, of direct injury to the nerves, these conditions are not brought to the physician immediately for treatment.

In conclusion, I would like to emphasize again the necessity for closer attention to detail, for more widespread use of the x-ray; and for closer cooperation between the coach, athlete, and physician than there has been in the past. Constant supervision of the injured player is of extreme importance. Indifference on the part of the physician or coach should not be tolerated. The team physician should be on the field at all times, and should not depend on the opinion of well-meaning, but uninformed assistants, who know little or nothing of the human body and its injuries. A carefully planned system of care for the injured athlete is of as much importance as a well-planned athletic program. Any athletic organization should be as proud of its scarcity of injuries as it is of its victories.

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Foot Section

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REFLEXES FROM THE FEET IN DIFFERENT AREAS OF THE BODY*

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Anyone doing corrective foot work often encounters cases in which normalization of foot disturbances relieves varying symptoms in other parts of the body more or less remote from the feet. In some instances, the anatomical connection is vague, but, undoubtedly, it is associated either with alterations of posture or disturbances in the nervous and circulatory systems.

Postural imbalance beginning in the feet may be reflected in painful conditions in the leg, knee, hip, sacroiliac joint, and lumbar region of the spine. It is possible that with the arches of one foot down more than those of the other, the pelvis is thrown out of balance in such a manner that the postural defects may be manifest as far from the feet as the occipito-atlantal articulation.

Some years ago, Mr. S. J. Brouwer of Milwaukee compiled statistics bearing on the subject. In a review of the data which he gathered, it is interesting to note how numerous are the cases in which symptoms as remote from the feet as headaches, catarrh, and dizziness in the high school boys and girls and university women examined were relieved when abnormal foot conditions were corrected. In view of this and many personal experiences, the admonition to begin each general structural examination with the feet is particularly apropos.

As structural engineers, osteopathic physicians must always take into consideration the foundations for each succeeding structure from the base upward, the bone supported being considered the bone in lesion. It is essential that the foundation in each instance should be normal in relation to the ground or floor which is the primary base. A structural examination should then very properly begin with the feet, proceeding upward, determining for each articulation the relative position of the superior structures to their foundations, and to the line of gravity. Differentiation must be made between primary lesions and those which are compensatory for definite structural lesions elsewhere.

Probably postural and compensatory deviations are the most important from an engineering viewpoint, secondary to which may be circulatory and nervous involvements. These in turn may involve or influence such disorders as muscular fatigue, ligamentous tensions, glandular disturbances, unstriped muscle involvement, and ptoses with accompanying gravitational and vasomotor influences on circulating fluids. The far-reaching effects of these mechanical shifts from normal, beginning in the feet, can easily explain the relief of remote symptoms when foot disorders have been corrected. With this concept, it is not unreasonable to keep an open mind with reference to distant symptoms which may have their origin in abnormalities of the foot structure. However, to attribute all disorders to the feet, including arthritis and other general disorders, as some have done, cannot be in order, although even in these conditions the symptoms may be influenced in some measure by the correction of foot abnormalities.

The continent-wide publicity that has attended the work of one man who attributes most bodily ills to abnormal foot conditions has undoubtedly been misleading to a great many people. While the correction of mechanical disturbances in the foot offers possibilities in relieving symptoms far remote from the feet, yet the sweeping claims which have been made for this specialist have not stood up under investigations by members of our profession who have visited his clinic.[1]

Undoubtedly, a wide variety of symptoms respond directly or indirectly to the change in body statics induced by the correction of foot mechanisms and the wearing of proper shoes. Many of these symptoms are associated with pain and in the mind of the patient are thought of as rheumatic or arthritic manifestations. Some are in the form of muscle fatigue; some may be in the form of neuritis. With the change of posture induced by faulty foot mechanisms, ptosis with the local stagnations of circulating fluids may set up a vicious chain of biological events that would be reflected into the subnormal functioning of abdominal, pelvic, and thoracic organs. When these congestions involve the endocrine glands, it is conceivable that the influence may be far reaching in a systemic way.

Most common reflexes from the feet are manifest as pain either due to static strain or reflexes from impinged nerve filaments in the feet reflected or referred over the branches from the same segments of the cord into the pelvic and lumbar region. These in turn may influence the vasomotors and vessel tone in the lower extremities, which will give us in addition to the lesion of the bony structure, a stasis of the fluids to complicate the clinical picture. One particularly striking observation has been the frequency with which venous and capillary stasis has been present in cases presenting foot symptoms. I have always considered this a causative factor for the weakened structures in the feet rather than an effect of weak feet. To increase the tone of capillaries, veins, and ligaments of the foot, I have found that a diet rich in silicon seems to be of value. Foods rich in silicon are those provided by the outer coverings of grains and by other seeds of various kinds.

It is always a safe procedure to begin our examinations and structural adjustments with the feet and then to move upward, seeing to it at each articulation that

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1. Hiss, John Martin: A Report on the Locke Clinic, Jour. Am. Osteo. Assn., 1934 (Nov.) 34:143-145.

each bone is in proper relation with its foundation, that the normal axes of movement in each joint are not faulted, that the ligaments are free from strain, that the circulation to and from the joint is unimpaired, that the nerves ending in the joint structures are free from irritation, and that the muscles controlling the movements of the joints are free from static strain, from toxic irritation, and from faulty muscle-habit register. When this course is followed and corrective effort directed as indicated in causing each structure to rest normally upon the one below, there will be assured perfect physiological balance in any particular articulation. If this be continued systematically, articulation by articulation, from the great toe to the occiput, and the proper corrections made, one may be assured of the osteopathically desired structural integrity in both the compression and tension members making up the body's framework, and there will be the usual osteopathic satisfaction to both patient and physician of observing even a long chain of symptoms disappear. On the other hand, if attention is first given to a lesion which is higher than the foot without due consideration of the foundation, corrective effort may be largely or entirely wasted in trying to correct that which is mechanically compensatory to a lesion in the foundation.

Any of the disorders that are traceable to faulty posture may lead to the feet as a contributing cause, for an imbalance beginning at the feet will be reflected upward through the structures as far as the occiput. This is particularly true when bones of one foot have changed their relative position in a more pronounced manner than those of the other. This may become a factor in lateral deviations of the spine by reason of the resulting pelvic twist or tilt as well as contributing to deviations from normal in the anteroposterior plane.

It might be possible to catalog completely all the remote symptoms that have been reported in our journals by different members of the profession interested in feet, but for the purpose of this presentation such a catalog seems scarcely necessary. A general outline of the scope of influence in this field is so great that it would seem sufficient merely to call to mind such vast possibilities and urge upon the members of the profession a most careful first consideration of the feet in both diagnosis and treatment, as the foundations upon which all body superstructures are in some degree dependent for their normal balance and function.

American Osteopathic Society of Proctology

H. A. DUGLAY
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LOCAL VERSUS GENERAL ANESTHESIA IN RECTAL SURGERY*

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The intention of this paper is not to give the technic of local or general anesthesia, but to show the advantages of local over general anesthesia in the majority of cases. Most of the members of the American Osteopathic Society of Proctology speak of their work as ambulant protology or conservative proctology. The terms mean the treatment of rectal diseases without confining the patient to bed. The past few years' experience of the men specializing in rectal surgery shows that more than 90 per cent of all cases presenting themselves for treatment can be operated on under local anesthesia.

The use of a general anesthetic is not a one-man job. The services of an anesthetist are required, and we are compelled generally to confine the patient to bed for at least a day. All this adds to the expense that has to be borne by the patient. Moreover, for the majority of proctologists, bed space and a qualified nurse to take care of their patients are not always available.

It is impossible, usually, to do surgery under general anesthesia the day the patient presents himself for examination. Following most of the general anesthetics in common use, the patient is deprived of water for a few hours, and if it has been necessary to maintain complete anesthesia for long, there may be severe nausea. There is usually a gastric upset, as well as severe pain when the bowels move for the first time after operation. There always enters the element of unnecessary risk from general anesthesia, in the way of postoperative pneumonia, gastric and kidney disturbances, and numerous other distressing conditions. There are some patients, in fact, who can and will undergo surgery under a local anesthetic, on which one would not undertake to work under a "general" because of heart, kidney, or lung disease.

Those of us who have proper hospital affiliations, or additional rooms adjacent to our offices to care for bed patients, are the only ones who can handle general anesthesia cases. In rectal surgery, the cases requiring a general anesthetic are usually malignancies or serious conditions that require considerable care. These should be handled by a general surgeon where postoperative conditions can be coped with competently. It may be necessary to give the patient a blood transfusion or institute numerous other life-saving measures in addition to careful nursing, and this can be carried out successfully only in a well-equipped hospital. These procedures cannot be carried out by one man, while most of us are practicing ambulant proctology with the help of our office nurse only.

Another very important consideration is the ability of the anesthetist administering the general anesthetic. In our larger cities, we have expert anesthetists who make this a specialty, but in most communities the proctologist has to depend upon some general practitioner, who, in many instances, is not friendly or in sympathy with ambulant or conservative proctology, and being a general practitioner, he is not always available. Even after making an appointment with him to administer the anesthetic, some emergency may arise that takes first place with him, and the proctologist is kept waiting, or compelled to hunt another physician. There is even a greater risk in being compelled to use a physician who may not have had the necessary experience with general anesthetics and who may, unintentionally, do the patient greater harm than the proctologist would do him good, in correcting rectal pathology.

Emergencies often force physicians to take the risks involved when the patient is not examined or prepared properly, but this is not necessary in rectal surgery when a good local anesthetic can be used.

Ninety per cent of ambulant proctologists have learned this point and are able to perform all the rectal surgery necessary with the assistance of a properly trained nurse, and this at a great deal less expense and less loss of time than they had been able to do with general anesthetics. Our best proctologists can perform the most complicated operations single handed under local anesthesia.

As most sufferers have an inherent fear of being put to sleep, as well as of hospitalization, the proctologist who is able to correct the pathology under local anesthesia is usually the physician of choice. Then it must follow that local anesthetics should be the choice of proctologists. The largest clinic in the United States, devoted to proctology alone, never uses a general anesthetic. If the chief of staff of this group has a patient with malignancy or other condition requiring general anesthesia, he puts the patient in a hospital and performs the surgery there. Generally speaking, where a general

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anesthetic is needed, the average ambulant proctologist is not capable of performing the necessary surgery. In using local anesthesia there is no reason why rectal surgery should cause the patient undue pain. The experience of the members of our society who have been using local anesthetics the past few years substantiates this statement.

In general anesthesia the danger from hemorrhage is greater. The shock to the patient, if the surgeon is compelled to give another "general" a few hours later to control hemorrhage, is much more severe. After an operation with local anesthesia, the operator can always use more anesthetic immediately, if necessary, to apply sutures or other means necessary to control hemorrhage. Under general anesthesia all the work has to be done at the first operation, while with local anesthesia the proctologist need do only what he deems necessary. This latter type of anesthesia has proved the most satisfactory method for step-stage operations, where careful consideration of existing pathology often saves many sphincters that might be destroyed under general anesthesia when the entire operation has to be completed at one time.

There are many types of local anesthetics on the market. Some of us prefer a certain type, but in the hands of a competent proctologist, most of them are entirely satisfactory and will give proper, short or prolonged anesthesia for the surgery needed. Local anesthetics having the advantage of prolonged anesthesia are the choice of many proctologists, and are the main reason for so little afterpain following rectal surgery. The rectal dressing for aftercare contains a sufficient amount of some local anesthetic to assist in keeping the patient comfortable and free from pain. Practically all of the local anesthetics currently used, in the dilutions in which they are utilized in rectal surgery are nontoxic (unless used in enormous quantities) and rarely do any untoward reactions occur, if they are properly administered. There is no preparation of the patient necessary after the taking of a careful case history and making a routine examination, except in the case of the nervous or neurotic type of patient. Then the proctologist is wise to administer a hypnotic or sedative. There is usually a quantity of anesthetic kept made up and ready for use at any time, and thus local anesthesia can be given at the time the patient presents himself for treatment.

Following the operation under local anesthesia, the patient can walk out of the office and go about his business unless the proctologist has been compelled to do a great deal of surgery. In case of afterpain, following local anesthesia, it can be controlled by various means, such as, heat, cold compresses or non-narcotic medication. These agencies work admirably, and it is rare indeed that a narcotic is required for afterpain.

The use of local anesthesia does not necessitate elaborate equipment or other factors that would prove a source of distraction to the proctologist. He can proceed in a leisurely manner to do the work he deems advisable at the time, and at any future date can again use the local anesthetic to correct additional pathology on which he thought it unwise to operate at the first visit.

CONCLUSION

In summing up some of the advantages of local anesthesia in rectal surgery, we find that a local anesthetic is available instantly to relieve the patient. After surgery is completed the patient is ambulatory and pursues his usual occupation without loss of time. There is no elaborate preparation of the patient for his operation. He can be operated on at the time he presents himself for examination and treatment. Postoperative nursing is not necessary, except the usual dressings or other care performed by the proctologist himself, following surgery. Many patients, who, on account of some cardiac, renal, or other serious lesion, cannot undergo general anesthesia, can be treated surgically. There is less expense to the patient because he does not have to be hospitalized and away from his occupation. There is less inconvenience to the proctologist, in addition to conserving his time. More thorough surgery can be done because the proctologist can operate leisurely. Afterpain is less. Narcotics are rarely needed, whereas under general anesthesia even the smallest amount of rectal surgery requires the use of narcotics for aftercare. Danger of hemorrhage is not so great. The gastric system is not upset and nausea and vomiting are eliminated. The patient is more comfortable in every way.

I believe that local anesthesia is the anesthesia that will be used, eventually, by all proctologists in the average run of cases that do not require radical surgery.

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DISCUSSION BY LLOYD WOOFENDEN, D.O.

First, I want to congratulate Dr. Meador on his splendid paper and assure him that in the main I thoroughly agree with him. My experience with local anesthetics has been so satisfactory that very seldom do I use a general anesthetic for rectal surgery.

When we do use general anesthetics it is usually because of a desire for this form of anesthesia on the patient's part rather than our own choice. We always try to persuade the patient to use a "local," but I am sure we have all had patients who insist that they be put to sleep when they are operated on. This type of patient would insist on a general anesthetic even though the operation were to be of the simplest nature. If we are not diplomatic, they will go to some one else to get the work done and this will not pay our own overhead.

Practicing in Detroit within a half mile of our osteopathic hospital has considerable bearing on our choice of anesthetic. We insist on hospitalization of all our rectal cases needing or demanding general anesthetics. If we were not so handy to our hospital, we would not be so easily persuaded to use "generals."

As far as bleeding is concerned, it is true that with a general anesthetic the hemorrhage is free at the time of operation, but we find that postoperative bleeding is no greater with general than with local anesthesia, and as for postoperative pain we do not have any more pain following general than we do local anesthesia with the same postoperative care.

I am sure that Dr. Meador is right that local anesthesia is the one of choice for nearly all proctology cases, and I am confident that we can do all our office work under local anesthesia. Those cases requiring a "general" should be hospitalized and are not truly ambulant.

Just a word of caution—if we do find it necessary to use a general anesthetic, I want to emphasize the necessity of using an anesthetist with experience and training in giving general anesthetics. It is much better to turn one's surgery over to some one else than to try to do it with incompetent help. One patient succumbing under anesthesia from poor assistance will do a physician more harm in the eyes of the laity than all the benefits he might derive from the surgery.

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SUSPENSION LARYNGOSCOPY*

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Laryngoscopy is the process of examining the laryngeal portion of the pharynx, particularly the vocal cords, by direct or indirect means.

Indirect laryngoscopy is accomplished with a laryngeal mirror of the plano type, properly warmed and placed in the oropharynx, while traction is made on the tongue by the fingers firmly grasping its tip. The mirror is tilted to a position which will enable the examiner to obtain an inverted image of the laryngeal structures. In this manner the epiglottis, vocal cords, arytenoides, and structures posterior and lateral may be viewed. This method has a wide application and is sufficient for most needs in the diagnosis and treatment of laryngeal disease, but it requires skill and patience on the part of the examiner, and cooperation on the part of the patient. It is possible, by the use of laryngeal instruments, to grasp foreign bodies and remove them, to remove specimens of tissue for biopsy, to remoye small tumors from the vocal cords, to apply cautery, and to give intralaryngeal medication. For this work the structures can be given topical anesthesia, such as cocaine, or one of the less toxic anesthetics, butyn or Pantocain. This is by far the simplest and most adaptable method of laryngoscopy.

Indirect laryngoscopy is not adaptable, however, to all needs. Rarely is it possible to examine the larynges of children by this method. In the child the larynx is located far anterior, and it is impossible to obtain sufficient traction to bring these structures into view. For adults various instruments have been devised to bring the laryngeal structures into direct vision. This is done by applying traction to the structures obstructing vision, namely the tongue and epiglottis. Jackson's laryngoscope and the directoscope of Hasslinger accomplish this very well, and permit the introduction of the bronchoscope or esophagoscope. They are not self-retaining, however, and thus limit the operator in that one hand must be used in the control of the instrument. This disadvantage is overcome in suspension laryngoscopy by the use of the Killian crane or the Seiffert suspension laryngoscope. These devices are self-retaining, once successfully introduced, leaving both the operator's hands free for the manipulation of instruments, aspiration tubes, etc.

None of these devices is safe in inexperienced hands. The operator and assistants should be trained in bronchoscopic technic, and be able to cope with any emergency which may occur. Injudicious use of instruments gives rise to trauma and edema, and careful, precise technic is essential.

APPLICATION AND USES OF SUSPENSION LARYNGOSCOPY

It will be apparent that suspension laryngoscopy has its greatest use in children for diagnostic and therapeutic procedures in laryngeal disease and for the location of foreign bodies, as well as for the introduction of the bronchoscope or esophagoscope. Foreign bodies are encountered frequently in children and must be removed as soon as possible, because of the dangers of obstruction, dyspnea, etc. More recently the treatment of laryngeal and pulmonary disease by aspiration and endobronchial medication has been attended with unusual success. The treatment of tuberculosis of the larynx, and pulmonary tuberculosis, is greatly enhanced in selected cases by bronchoscopic and laryngoscopic therapy. Cautery, aspiration, and endobronchial medication are the measures most used. Malignant growths of the larynx, mediastinum, esophagus, etc., can be controlled, in early cases, by the implantation of radium seeds directly into the tumor mass.

Suspension laryngoscopy may be done with or without an anesthetic. If there is no emergency or likelihood of obstruction to respiration, usually a general anesthetic is given. If, however, obstruction exists, the child is wrapped in a sheet, and the procedure carried on without anesthesia. The operator must be prepared to do a tracheotomy at any time to relieve the dyspnea, and when obstruction is complete or dyspnea severe, tracheotomy is done first ,and the obstruction removed at a later date, when the patient's condition warrants its removal. This may be from one to six weeks later.

TECHNIC OF DIRECT LARYNGOSCOPY

Preparation of the Patient.—In the adult, if an emergency does not exist, the membranes may be anesthetised with a local anesthetic. Pantocain works very well for this purpose and is applied by means of a laryngeal cotton carrier, using indirect laryngoscopy to direct its application.

In children, when no emergency exists, a general anesthetic is preferable. If no anesthetic is to be used, the child is placed in the supine position on the operating table, and wrapped in a sheet, to restrict movement of the arms. The table should be of sufficient height to allow the operator to work from a stool placed at the end of the table. The patient is best strapped to the table in such a position as to allow the head to drop from the head of the table. This is done best by using a table supplied with a small drop leaf at its head. All instruments and aspiration tubes, cotton swabs, forceps, etc., should be within reach of the operator at all times.

In extremely nervous patients, barbital 5 gr., is given one hour preceding the operation. It is a valuable sedative and should be given routinely if topical anesthesia is used.

Anesthesia.—Local anesthesia has already been described. General anesthesia is accomplished by the use of an efficient ether machine, which also supplies the suction necessary for aspiration. Ethyl chloride or nitrous oxide and oxygen are used for induction.

Ether is then given through a mask or cone, until quiet surgical anesthesia has been reached. A mouth prop is then inserted and the insufflation machine started. The patient may now be moved to operating position (head and neck projecting over the head of the table), the head being supported by an assistant.

If all instruments are in their proper places, and the means of illumination and aspiration working properly, the actual operative work may begin.

Direct Laryngoscopy Technic.—Jackson's laryngoscope is an instrument consisting of a distally illuminated spatula tip supported by a handle and supplied with a removable slide, for the passage of a bronchoscope or esophagoscope directly through the instrument. Illumination is supplied to the small distal lamp at the tip of the spatula, by means of a lamp carrier, and activated from a dry cell battery box.

The assistant supports the head of the patient on his knees, the jaws being held open by means of a bite block. The spatula is introduced into the oropharynx, and the tip engages the back of the tongue. This is lifted until the tip of the epiglottis is seen. The spatula tip is depressed to engage the epiglottis, and the instrument carried slightly forward and lifted until the larynx comes into view. The operator must support this instrument and maintain constant traction with his left hand while the right is free for the manipulation of instruments.

The bronchoscope may now be passed through the laryngoscope, the slide removed, and the laryngoscope removed completely.

Hasslinger's directoscope is a proximally illuminated instrument which consists of a handle, a proximal electroscope activated from a battery or transformer, and two blades with a screw device for separating the distal ends of the two. The upper blade is a spatula, while the lower one carries a plate for engaging the posterior pharyngeal wall.

The instrument is illuminated and introduced into the oropharynx with blades closed, while the assistant supports

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the head. The pharyngeal plate engages the posterior pharyngeal wall beneath which lie the bodies of the cervical vertebrae, while the spatula tip engages the posterior aspect of the tongue. The blades are now separated until the tip of the epiglottis is seen. The instrument is advanced, so that when the blades are approximated slightly and the instrument advanced a bit, the epiglottis is engaged. The blades are now separated and advanced sufficiently to bring the larynx into view.

The electroscope is mobile and may be swung clear of the instrument to allow passage of the bronchoscope. The operator, however, must retain control with his left hand on the handle of the instrument, although the traction is borne by the instrument itself.

Killian's suspension crane and Lynch's suspension hooks are used in combination. The first is a self-retaining instrument which carries no illumination, this being supplied indirectly from a head mirror or illuminated head band. It consists of a crane, fastened to the table with thumb screws, and supplied with a handle and screw device for advancing or retarding the crane. The crane carries a hook, which supports on its distal end, a self-retaining mouth prop and a spatula tip, with a screw device for separating the two, and a screw for elevating the spatula tip. The crane is first run out to nearly its full extent, and the mouth prop and spatula blades closed.

The assistant supports the head while the tooth plate of the mouth prop engages the upper teeth and the spatula tip the dorsum of the tongue. The blades are separated until breathing is free and advanced until the tip of the epiglottis is seen. The spatula tip is then depressed and advanced slightly to deliver and engage the epiglottis. The hook is now suspended from the crane, the crane advanced and the spatula elevated sufficiently to expose to view the entire larynx. The operator's hands are now free to do whatever work may be indicated. Bronchoscopy or esophagoscopy can be done with the instrument in place.

Seiffert's suspension laryngoscope is a simplified Killian crane. It is self-retaining and eliminates completely the crane. It consists of an abdominal plate, a ratchet and screw device for depressing it, a self-retaining mouth prop and screw controlled advancing spatula, with a screw device for separating the two. It has been in almost universal use in the major European bronchoscopic clinics for the past five years, and I prefer it personal'y because of its simplicity and numerous advantageous features. Illumination is supplied indirectly from a head mirror or illuminated head band, as in the Killian instrument.

The head is dropped over the end of the table, the neck being in extreme extension, and supported by an assistant. The mouth prop and spatula tip is closed, the spatula being retracted to its limit. The tooth plate engages the upper teeth, care being used to protect the lip, and the spatula engages the dorsum of tongue. The mouth prop is now widened sufficiently for good vision and the spatula advanced until the tip of the epiglottis is seen. It is then depressed slightly and advanced to deliver the epiglottis beneath the blade of the spatula. The abdominal plate is now lowered with the ratchet to engage the upper abdomen in the midline. The screw is turned to depress this plate, thus exerting traction on the tongue and epiglottis sufficient to expose completely the larynx. Adjustments are made, widening the mouth prop, or advancing the spatula to give adequate exposure. When this is done, the hold may be loosened from the instrument and finally removed entirely, it being self-retaining. Bronchoscopy or esophagoscopy can be done with the instrument in place.

AFTERCARE

The aftercare consists of rest and osteopathic manipulative treatment. Careful attention should be given to the breath sounds and chest findings until all edema or inflammation has subsided from the passageways. If tracheotomy has been done, the tube must be watched carefully by a nurse trained in bronchoscopic care and technic. The tube must be kept clean and free of mucus until edema subsides and free breathing is reestablished. Then the tube may be removed and the wound closed with sterile dressings and adhesive strips.

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Case Histories

CHRONIC BRONCHITIS

This history is taken from the files of the Des Moines Still College of Osteopathy clinic by L. L. Facto, Director. Mr. DeWitt V. Goode was the senior student in charge of the case.

Patient.—M.S., male, aged 15 years, American.

Present Complaint.—Patient entered the clinic on September 18, 1935, complaining of attacks of paroxysmal coughing which resulted in weakness, vertigo, nausea, vomiting, and exhaustion. During the period of the attacks there was an abundance of expectorated material, constant headaches, insomnia, and constipation. He also complained of difficult breathing due to excess mucus in the throat and bronchial tubes, and a troublesome epistaxis which was difficult to control. Slight colds precipitated the attacks of coughing, which usually lasted about two months. During the warmer months only mild attacks occurred. He had been unable to attend school regularly and it was impossible for him to do much work or to participate in athletic activities. These attacks dated from an attack of whooping cough when he was 18 months old.

Past History.—Mother reported that the patient had a normal birth. Of the childhood diseases he had whooping cough at 18 months and chicken-pox at five years of age. A tonsillectomy was done in 1930.

Family History.—Father and mother were living and in good health. The patient was an only child. There was no history of tuberculosis in the grandparents.

Previous Diagnosis, Treatment, and Result.—The patient had been under observation of a hospital staff and many doctors for several years. A diagnosis of chronic bronchitis had been given. Pertussis serum injections proved of no value. Internal medication of many varieties was of no benefit. Drainage of mucus bronchoscopically was attempted, which gave temporary relief. Cod-liver oil and mild laxatives were taken regularly. Rest and diet had been regulated, but the condition gradually increased in severity.

Physical Examination.—Weight 123 lbs., height 5 ft. 11 in.; temperature 100 F. (orally); blood pressure—systolic 138, diastolic 97, pulse pressure 41; rate of pulse 80, volume and rhythm normal; heart—size, position, and sounds all normal; thorax—subcrepitant rales on the left, mucous rales on the right; abdomen normal; reflexes normal; eye, ear, nose and throat—normal except for inflammation of the respiratory passages; rectum normal.

Osteopathic Lesions.—Second cervical, lateroflexion with rotation to the left. Third cervical, lateroflexion with rotation to the right. Third thoracic, flexion lesion. Sixth thoracic, lateroflexion with rotation to the right. Limited motion of ribs, but no definite lesions. Tissue tension increased over right sacroiliac joint. Slight scoliosis to left in lumbar and lower thoracic regions.

Laboratory Examinations.—A blood count revealed that the hemoglobin was 100 per cent, erythrocytes, 5,620,000 a cubic millimeter, leukocytes 8,000 a cubic millimeter, polymorphonuclears 57 per cent, small lymphocytes 36 per cent, eosinophils 1 per cent, basophils 6 per cent. A urinalysis was essentially negative. Analysis showed the sputum to be mucopurulent in character, but negative as to tubercle bacilli. X-ray examination of chest was negative as to pathology of lung parenchyma, but it indicated involvement of bronchial tubes with some emphysema.

Treatment.—The patient was instructed to continue his hygienic regime of rest, proper diet, and elimination, and to take precautions against exposure.

Osteopathic manipulative treatment was begun at once. The lesions in the cervical region were corrected at the first treatment. At this time some lifting of the ribs was done and an attempt was made to put each articulation of the vertebrae through its normal range of motion. On attempting to apply the so-called lymphatic pump treatment and compression treatment to the liver and spleen, severe coughing was initiated which necessitated the discontinuance of these types of treatment. Patient was told to come twice a week to the clinic for treatment. He was not confined to bed although he was instructed to rest as much as possible. After the first treatment he reported his headache had disappeared.

At the third treatment it was possible to apply treatment over the liver and spleen without initiating a coughing spell. Lesions in the thoracic region were corrected. The so-called lymphatic pump treatment was used for approximately five minutes. The muscles of the spine were relaxed and the ribs were lifted and put through some motion. After this treatment the coughing and expectoration began to diminish and the patient began to gain weight.

This type of treatment was continued twice a week for a period of five weeks (ten treatments). At the end of this time the patient had gained 12 pounds in weight. All coughing, excessive expectorating, and other symptoms had stopped. He had been working out of doors for one week without dyspnea or exhaustion. On examination of the chest no rales were found.

It was recommended that treatment be continued because of the chronicity of the disease. This advice was followed. On November 5, 1935, the patient weighed 144 pounds. His general health was good, and he had an optimistic view of the future.

Current Medical Literature

Abstracted by R. E. Duffell, D.O.

The Irritants in Adhesive Plaster

Louis Schwartz and Samuel M. Peck made a study of the causes for skin reactions following the use of adhesive plaster. The results of testing twenty-one subjects with eleven ingredients of adhesive plaster are given in *Public Health Reports* for June 14, 1935, issued by the U. S. Public Health Service. These investigators found that the chief irritants in adhesive plaster were the resins and the smoke-cured wild rubber. In the manufacture of adhesive materials it is possible to substitute nonirritating types of resins and rubber for the present types used.

Alum Treatment Renders Monkeys Resistant to Poliomyelitis

Since it is believed commonly that the most usual route of infection in poliomyelitis is by way of the nasal mucous membranes, Charles Armstrong and W. T. Harrison attempted to render the mucous membrane of the nose of monkeys less permeable to poliomyelitis virus through treatment with solutions of sodium aluminum sulphate. The results of their experimentation are given in *Public Health Reports* for May 31, 1935, issued by the U. S. Public Health Service, as follows:

"1. The instillation of sodium aluminum sulphate, 4 per cent, into the nostrils of monkeys resulted in the survival of 17 from a group of 23 animals, while only 3 from a group of 19 nonprepared controls survived similar intranasal inoculation with poliomyelitis virus.

"2. Poliomyelitis tended to develop later and to run a slower course in the alum-prepared group than in the nonprepared controls.

"3. The protective action of the alum solution is believed to be due to an alteration which decreases the permeability of the mucous membrane of the nose rather than to an antiseptic action."

[This prophylactic treatment does not make use of a vaccine or serum, which modalities have been decried as noneffective and in some instances dangerous. See editorial p. 249.]

Bacteriophage Therapy

In *The American Journal of Surgery* for September, 1935, Ralph Lampert and Frederick Fitzherbert Boyce report 90 per cent of successes out of a thousand cases in the use of bacteriophage for certain types of infections, chiefly carbuncles, furuncles, breast, ischiorectal, perirectal and miscellaneous abscesses, infected wounds, whether operative or traumatic, and hand infections. The authors used commercial preparations known as "staphylojel" (jelly bacteriophage), "staphylolysate" and cololysate" (liquid bacteriophages). The first two are used on the assumption that the majority of carbuncles and furuncles, as well as most hand infections, are caused by the staphylococcus, and the last is used for abscesses about the rectum where the colon bacillus is the predominant organism.

The authors attribute the successful results to the technic which they use, which is based upon direct contact of the bacteriophage with the infected tissues by means of generous daily applications. The liquid bacteriophage is injected into the area of induration, the same procedure being followed after the aspiration of the pus present if the stage of fluctuation has already been reached. Open wounds are packed with the jelly bacteriophage. One of the most striking results of bacteriophage is the very prompt relief of pain which follows its use. The authors say that the method does no harm in those cases in which is does not succeed.

Treatment of Burns

Glenn L. Coan, writing in *Surgery, Gynecology, and Obstetrics* for November, 1935, on the principles of coagulation treatment of burns, gives the advantages of ferric chloride over tannic acid. Early mobilization of joints (if the burn involves them) is the greatest advantage of ferric chloride. It is possible to move the joints without disturbing a ferric coagulum, which in the author's experience has not been possible with tannic acid. Tannic solutions become irritating in a short time while those of ferric chloride precipitate basic iron salts slowly, but the solution remains effective and rather less irritating. It is easier to detect necrosis and infection under ferric coagula than under tannic coagula. Ferric coagula have been removed in good condition as late as the twenty-third day while serviceable tannic coagula are seldom seen after the fifteenth day. The author uses a 5 per cent aqueous solution, made by dissolving commercial anhydrous ferric chloride in distilled water, and filtering. This has been alkalinized in some cases by addition of sodium hydroxide.

John P. Steel reports in *The Lancet* for August 10, 1935, excellent results in the treatment of all types of burns with crude cod-liver oil. He says that the main advantage is that on admission to the hospital or doctor's office, no matter what dressing has been applied outside as first-aid, it is unnecessary to undertake any extensive skin toilet before applying cod-liver oil. Lint heavily soaked in the oil is applied as dressing and not removed for 48 hours. However, at the end of 24 hours—and more often if it seems necessary—the lint is resoaked in cod-liver oil in situ. The author wonders whether the vitamin content of the cod-liver oil has something to do with the rapid healing and the almost entire elimination of scar tissue.

Support of the Pelvic Viscera

In *The American Journal of Surgery* for August, 1935, Harry Koster describes the anatomy of the pelvic floor and gives the reasons for pelvic viscera prolapse. He says that the uterus does not depend for support on any of the ligaments attached to it. Neither is support obtained from pelvic floor fascia, as is commonly thought. The problem of pelvic visceral support concerns the efficiency of the musculature about the pelvic floor aperture. This aperture, necessary for the passage of the urethra, vagina and rectum, is formed laterally by the anterior free margins of the levator ani muscles, anteriorly by the pubis, and posteriorly by the junction of both levators. Except for the deficiency anteriorly in this musculature, the opening of the bony pelvic outlet is perfectly closed by these muscles. When intact this musculature is capable of increased contraction and great relaxation, prevents the extrusion of abdominal and pelvic viscera, and allows the proper passage of visceral contents. This ability to contract and relax takes care of changes in intra-abdominal pressures which in the main are directed downward and increased by gravity.

Two interrelated causes are important in the production of prolapse. The first is an increased pressure in the pelvis, and the second, an insufficient resistance of the pelvic musculature. Not infrequently, the cause of the first condition is corpulency. The predisposing cause of the second condition is usually childbirth injury. As a result of injury to sphincter mechanism of the pelvic floor aperture, the bladder, which rests above the aperture anteriorly and which is subjected to the forces of intrapelvic pressure, is pushed down into the aperture everting the anterior vaginal wall in front of it. In a similar manner dilatation of the anterior rectal wall because of straining at stool results in extrusion of the posterior vaginal wall overlying the rectum through the aperture.

Besides prolapse due to obstetrical injury the author mentions trophic disturbances in the pelvic floor musculature which results in atony of the muscle and general weakness involving the whole musculature of the pelvic floor.

Dinitrophenol and Cataract

The Journal of the American Medical Association for September 7, 1935, carries several case reports of rapidly developing cataract in relatively young people following the administration of dinitrophenol. In each case the patient had taken dinitrophenol for weight reduction. It is thought that the tremendous dehydration of tissue which accompanies the administration of this drug is responsible for the lens opacities. [This report of cataracts recalls to mind an even more serious condition—agranulocytic angina—which has been charged to the harmful effects of dinitrophenol. See p. 105 of the October, 1934, JOURNAL.]

Results in the Use of the Ketogenic Diet for Urinary Infections

The *Proceedings of the Staff Meetings of the Mayo Clinic* for December 18, 1935, contains the results of a survey made by H. A. Buchtel of 200 patients who had been treated by the ketogenic diet for bacillary urinary infections while at the Clinic and whose urine at the time of their dismissal from the Clinic had been sterile. The survey was made in the form of questionnaires sent out to these former patients in which they were asked whether they had had any recurrence of their symptoms. One hundred and sixty-one replied, and it was found that 74 per cent of the 161 patients had remained well. More than 60 per cent of the recurrences came on within the first three months after the treatment, which fact led the author to believe that the diet was stopped too soon.

The ketogenic diet is not necessarily a hospital procedure. In the experience of the Clinic, once the patient has followed the diet, he can carry it out satisfactorily at home. Of the forty-two patients with recurrence, fourteen followed the diet at home, and all of them obtained relief.

[The ketogenic diet was explained in an editorial in THE JOURNAL for May, 1934.]

Current Osteopathic Literature

Abstracted by R. E. Duffell, D.O.

CLINICAL OSTEOPATHY
LOS ANGELES

31: No. 4 (October), 1935

*Body Fluids. George V. Webster, D.O., Los Angeles.—p. 5.

Common Foot Disorders. Bruce S. Collins, B.S., D.O., Santa Monica, Calif.—p. 7.

The Pathology of Appendicitis. Basil K. Woods, D.O., Los Angeles.—p. 11.

Editorials.—p. 15.

Body Fluids.—Webster divides the body fluids into three groups: (1) vascular (including lymph), interstitial (including cerebrospinal and synovial fluid and the secretions of glands), and intracellular (fluids of the protoplasm in the cell). These fluids comprise 67 per cent of the body weight. He describes the purpose of these fluids and says that an excess of water taken in the form of drink and food works harm to the body by interfering with the oxidation processes. Suboxidation products appear such as uric acid, oxalic acid, diacetic acid, etc. The tissues swell and they cannot perform their normal function. For complete oxidation, foods should be restricted to those actually needed, being ideally provided in the ratio for protein, fat, and carbohydrates of about 3-5-8.

31: No. 5 (November), 1935

*Manipulative Osteopathy in Surgery. Edward T. Abbott, D.O., Los Angeles.—p. 5.

Low Voltage Modalities. W. T. Sechrist, D.O., Los Angeles.—p. 8.

The Toxemias of Early Pregnancy. S. E. Curran, D.O., Sacramento, Calif.—p. 12.

Orificial Surgery. Edith S. Weston, D.O., Los Angeles.—p. 13.

Editorials.—p. 15.

Manipulative Osteopathy in Surgery.—Abbott says that proper follow-up physical examinations with a view to correcting osteopathic joint lesions should be made of every patient who has gone through surgical procedure. Surgery causes physical changes within the body which set up a series of irritating stimuli affecting the muscles of the back which in turn result in joint strains. The correction of these lesions will aid the natural healing process and render the patient less susceptible to disease.

OSTEOPATHIC DIGEST
PHILADELPHIA

9: No. 2 (October), 1935

Graduate School. Edgar O. Holden, D.O., Philadelphia.—p. 2.

Scholastic Aptitude in the Freshman Class. Malcolm G. Preston, Ph.D., Philadelphia.—p. 4.

Board of Directors Announce Fourth Annual Charity Ball on Washington's Birthday.—p. 5.

States Hold Conventions.—p. 7.

Scientific Supplement—Acute Anterior Poliomyelitis. Ruth E. Tinley, D.O. Pertinent Facts in the Consideration of Anterior Poliomyelitis. Leo C. Wagner, D.O. *Practical Consideration of Lung Abscess and Bronchiectasis. William F. Daiber, D.O. Surgical Management of Lung Abscess and Bronchiectasis. F. Carlton Street, D.O. Bronchoscopic Procedure in the Diagnosis and Treatment of Lung Abscess and Bronchiectasis. J. Ernest Leuzinger, D.O. Endocrine Therapy and Its Relation to Ovarian Dysfunction. Edward G. Drew, D.O. Diseases of the Eye as They Concern the General Practitioner. William Otis Galbreath, D.O. The Present Status of the Hypertrophied Prostate Problem, with Especial Reference to Transurethral Resection. H. Willard Sterrett, D.O. Supplement pages 1-16, incl.

The Axone Supplement.—p. 25.

Practical Consideration of Lung Abscess and Bronchiectasis.—Daiber reviews the causes, diagnosis, and treatment of lung abscess and bronchiectasis. In lung abscess the most likely etiologic factors are: (a) operation upon the upper respiratory tract (particularly tonsillectomy), (b) foreign bodies lodging in the bronchi, (c) pneumonia, and (d) foci of infection in other parts of the body. Osteopathic joint lesions from the seventh cervical to the sixth thoracic vertebrae are important factors in the two last named conditions, because they interfere with

nerve supply to the lung tissue and cause areas of lowered tissue resistance. Typical cases of lung abscess present an intermittent, so-called hectic fever, chills, and sweating. Cough and expectoration soon appear. Often, however, the physical findings are masked by the signs of the previous condition. The abscess may terminate by rupture into a bronchus or through the pleura resulting in pyopneumothorax, or it may become chronic with the formation of extensive fibroid changes in adjacent lung tissue. Osteopathic manipulative treatment in these cases should be applied cautiously. Daiber says that "rough handling and mobilization of the thoracic cage, including lymphatic pump [treatment], are positively contraindicated." Gentle treatment, however, increases leukocytic response, stimulates antibody formation, and restores normal trophicity to the areas involved.

Bronchiectasis, dilatation of the bronchial tubes and bronchioles, is practically always a secondary condition to some preceding disease of the bronchi, lungs, or pleurae, such as acute and chronic bronchitis, asthma, and emphysema. Prolonged exposure to inorganic dust, also narrowing of the lumen of a bronchus by a gumma, foreign body, or pressure from without, as in aneurism or mediastinal tumor, are leading causes. The symptoms are paroxysmal productive cough, yellowish or blood-tinged (often putrid) sputum, dyspnea and cyanosis on exertion, and clubbing of fingers. Treatment is aimed at eradicating the infecting agent, adequate drainage of the bronchi, and correction of physical conditions that tend to further dilate the bronchi. The so-called lymphatic pump treatment is useful. Direct treatment to the liver and spleen should be given to increase the antibody content of the blood stream. Joint lesion correction should be done whenever indicated. The patient should be taught to assume the inverted or semi-inverted Trendelenburg position for 15 to 30 minutes, three or four times daily.

In conclusion, Daiber says it is impossible to estimate just what percentage of cases of lung abscess or bronchiectasis are prevented by osteopathic manipulative treatment given in time.

9:No. 3 (Nov.-Dec.), 1935

Productive Study Habits. Malcolm G. Preston, Ph.D., Philadelphia.—p. 2.
Research Department Continues Expansion.—p. 3.
Graduate School.—p. 4.
Fourth Annual Charity Ball Draws Early Reservations.—p. 6.
Has Physics Any Fundamental Relationship to Osteopathy? William Baldwin, Jr., B.A., M.A., Philadelphia.—p. 7.
Plans Completed for a Larger Museum. Thomas A. Haviland, A.B., Philadelphia.—p. 8.
Philadelphia Furnishes Educational Impetus to Graduates. D. B. Thorburn, D.O., New York, N. Y.—p. 9.
*Scientific Supplement.—The Use of the Roentgen Ray in the Study of Vertebral Mechanics with Special Reference to Its Adaptability in Osteopathic Procedure. Fredrick A. Long, D.O., and Paul T. Lloyd, D.O., Philadlphia.—Supplement pages 1-16 incl.
With the Nurses.—p. 27.
The Axone.—p. 29.
Sports. News of the Classes. Organizations.—pp. 30-36.

The Use of the Roentgen Ray in the Study of Vertebral Mechanics with Special Reference to Its Adaptability in Osteopathic Procedure.—Frederick A. Long, director of research, and Paul T. Lloyd, professor of radiology at the Philadelphia College of Osteopathy, with the technical assistance of Martha M. Bailey and Kenneth Wheeler of the Departments of Research and Radiology respectively, have attempted a meticulous x-ray study of the dynamics of the vertebral column. They have developed a technic for ruling and measuring the plates which "translates the static of the ordinary examination into the dynamic concepts of mechanics and, as well, makes possible mathematical deductions which can be used for comparative study." This x-ray study was undertaken because it was felt that palpatory methods for obtaining mathematical values necessary for scientific comparison were unreliable. Further, it was felt that there are a growing number of osteopathic physicians who believe that structural alterations which are palpable and which are recognized as osteopathic joint lesions, are but relatively few compared with the many lesions that are present and not palpable.

The main diagnostic features of the osteopathic lesion are: changed structural relationship, alteration in mobility, and soft tissue changes. The work done by these investigators was concerned with the first two of these, and represents research on the cervical part of the vertebral column. It is planned to continue this study on the balance of the spine, including the sacroiliac joints. The authors worked out this preliminary series to establish a new technic and to find normal values for one age group

Lateral x-ray studies of the cervical column of twenty students of the Philadelphia College of Osteopathy, ranging in age from 18 to 34 years with an average age of 22, were made. These students were chosen because they were free from gross cervical vertebral pathology. Lateral pictures were taken in 3 positions: neutral, flexion, and extension. These changes indicated the alterations which occur during motion of the cervical column. Upon these films a system of ruling was applied with which many changes taking place between adjacent vertebral bodies could be determined and measured accurately, for instance, the percentage of motion which each segment contributes to the total motion of the group. Other rulings were applied from which the location and stability of the axis for flexion and extension movements could be obtained, the degrees of compression and decompression in the invertebral discs could be determined, and the amount of vertebral body shifting in flexion and extension could be found.

The authors have used diagrams explaining the system of rulings and numerous tables showing in millimeters the changes of the relationship of the cervical bodies and of the discs as the vertebral column moves from flexion to neutral and to extension. Out of this mass of detailed measurements and calculations they have arrived at a set of figures which may be considered normal for a certain age group. For instance, "any second cervical vertebral segment could be considered normal if it contributed between 9 and 20 per cent to the total range of motion for five segments (from the second to sixth segments inclusive), if the interspace between the second and third cervical contributed between 17 and 23 per cent to the total of interbody spacing for the five segments, and if the second shifted forward on the third in flexion to an extent between 0 and 21 per cent of the lower surface diameter of the second and backward on the third in extension to an extent between 0 and 13 per cent of the lower surface diameter of the second."

It is the authors' hope that this work will pave the way for advances in osteopathic diagnosis.

THE COLLEGE JOURNAL, KANSAS CITY COLLEGE OF OSTEOPATHY AND SURGERY

19:289-320 (October), 1935

Pernicious Anemia. George J. Conley, D.O., Kansas City, Mo.—p. 292.
*Shall We Keep Our Teeth and Tonsils? Wilborn J. Deason, D.O., M.D., Chicago.—p. 296.
1934 Year Book of Pediatrics. Annie G. Hedges, D.O., Kansas City, Mo.—p. 299.
Placenta Previa. Edna Bangs, D.O.—p. 301.
To the Student Body of the Kansas City College of Osteopathy and Surgery. Mabel Andersen, D.O., Kansas City, Mo.—p. 307.
Editorials.—p. 308.
Diseases that Affect the Metabolic Rate. C. A. Povlovich, D.O., Kansas City, Mo.—p. 311.
The Opening of School. J. W. Tedrick, Class '37.—p. 314.
Getting It Off Their Chests.—p. 317.
The Clinical Fifth Year. Hazel Clark, D.O., Kansas City, Mo.—p. 318.

Shall We Keep Our Teeth and Tonsils?—Based on a study of over 800 case records of chronic arthritis, Deason has come to the conclusion that focal sepsis is "certainly not the most common or persistent cause of this malady, and that surgical correction of such sources of infection will effect a permanent cure in only a very low percentage of such cases. He concludes further "that systemic infection, which may or may not result from focal sepsis, is the most common and persistent cause,"

and autointoxication from colonic stasis perhaps the second most common cause.

In a discussion of treatment for chronic arthritis and chronic infection in general, he says that the use of osteopathic manipulative treatment together with "friendly fever" therapy is successful in fully 85 per cent of all such cases. It is necessary, however, in these cases also to establish hygienic habits of living which include adequate elimination, proper diet, etc. Sources of infection must be eliminated, but the wholesale removal of sound teeth and tonsils is to be condemned.

19:321-352 (November), 1935

*Kummell's Disease. Yale Castlio, D.O., Kansas City, Mo.—p. 324.
Sinusitis. A. B. Crites, D.O., Kansas City, Mo.—p. 327.
Normality Based on Type. Wallace M. Pearson, A.B., B.Sc., D.O., Kansas City, Mo.—p. 331.
Education Comment.—p. 335.
Riddling a Medical Egotist.—p. 338.
Advertising Osteopathy as a Vocation. A. A. Kaiser, D.O., Kansas City, Mo.—p. 341.
Anent the Appendix. George J. Conley, D.O., Kansas City, Mo.—p. 343.
Treatment of Two Common Skin Diseases. Annie G. Hedges, D.O., Kansas City, Mo.—p. 346.
Dreaming. A. A. Kaiser, D.O., Kansas City, Mo.—p. 349.
Kansas City in the Next Convention.—p. 351.

Kummell's Disease.—Castlio stresses the necessity for painstaking search for other causes in patients who continue to complain of pain traceable to the spinal column even after osteopathic joint lesions have been corrected and sources of infection have been cleared up. The cause may be found to be Kummell's disease. This is a comparatively rare condition in which there is an osteitis of the body of the vertebra. In the fully developed case there is considerable bone absorption and vertebral deformity. Its early detection is difficult, but there is usually a history of trauma to the spinal column, which results in a disturbance of the nutrition of the vertebra injured.

Some authorities doubt that Kummell's disease is an entity distinct from vertebral fracture, although x-ray examination at the time of injury in many cases has been negative as to fracture.

Even in the presence of roentgenologic evidence of wedge-shaped vertebrae, a number of conditions must be ruled out before a diagnosis of Kummell's disease can be made, such as tuberculosis, lues, osteomalacia, atrophic arthritis, rickets, cancer, deformity due to postural stress, and congenital abnormalities.

THE JOURNAL OF OSTEOPATHY
KIRKSVILLE, MO.

42: No. 11 (November), 1935

General News.—p. 5.
Editorial on Conventions.—p. 10.
*Transurethral Prostatic Resection. Earl H. Laughlin, Jr., D.O., Kirksville, Mo.—p. 11.
Diagnosis and Management of the Sick Infant. Ray E. McFarland, D.O., Wichita, Kans.—p. 14.
Thermogenic Treatment of Anemia. W. J. Deason, D.O., Chicago.—p. 16.
Building Success. Harry Goehring, D.O., Pittsburgh, Pa.—p. 19.
Historical.—p. 22.
News of Kirksville.—p. 23.
Science News Notes. W. J. Deason, D.O., Chicago.—p. 25.
The Forum.—p. 28.
State and District Meetings.—p. 29.

Transurethral Prostatic Resection.—Laughlin says that prostatic hypertrophy develops in one-third of all men living past the age of 50 years. Of the patients undergoing resection, an estimated 12 to 18 per cent have carcinoma. It is the author's opinion that an uncared for prostatic enlargement will lead eventually into a cancer state because of the continued mechanical and chemical irritation from partial urinary obstruction.

Suprapubic enucleation of the gland carries a mortality of about 20 per cent, while series of more than 300 cases have been cared for by the transurethral method before a death occurs. The proper preparation of the patient for transurethral operation is most important. A vasectomy is done first under local anesthesia for the prevention of a possible epididymitis. Also a catheter is tied in the urethra and the distended bladder decompressed. Irrigations of the bladder with weak antiseptic solutions are performed to clear up any infection. Three to four osteopathic manipulative treatments are given daily during this period of preparation.

Low spinal anesthesia is used. The resectoscope is introduced through the urethra past the obstructing prostate into the bladder. Working from within out, the prostatic tissue is sliced by means of a wire loop activated by a high powered electrical current from a radio generator. At the conclusion of the operation a No. 24F catheter is tied in place. The postoperative care consists of frequent bladder irrigations the first few hours after operation. At the end of 48 hours the catheter is removed and the patient encouraged to void.

Eighty to ninety per cent of cases can be cared for by this method. Even advanced carcinoma cases can have a degree of comfort heretofore impossible.

42: No. 12 (December), 1935

General News.—p. 5.
Editorial on Being Modern.—p. 10.
*The Infra-Red Photography of Varicose Veins. Collin Brooke, D.O., St. Louis.—p. 11.
K.C.O.S. Surgical Clinics. Gallstones. Cancer of the Stomach.—Earl H. Laughlin, Jr., D.O., Kirksville, Mo.—p. 12.
What Is Osteopathy? W. C. Dawes, D.O., Bozeman, Mont.—p. 14.
Osteopathic Salesmanship. E. D. Holme, D.O., St. Joseph, Mo.—p. 17.
Historical. Recollections of Baldwin, Kans.—p. 20.
Science News Notes. W. J. Deason, D.O., Chicago.—p. 21.
News of Kirksville.—p. 22.
State and District Meetings.—p. 26.

The Infra-Red Photography of Varicose Veins.—Although infra-red photography for the diagnosis of varicose veins and ulcers is still in the experimental stage, Brooke is using it in his practice and finds it an aid in locating the varicosities and in giving a prognosis. Photographs may be taken before and after treatment as a permanent record of cure or improvement. Brooke uses the Leica model F camera with Summar 50 mm. lens for this work. The diaphragm is set at f4.5, the shutter speed at one-twentieth second, focus three and one-half to four feet from the subject, and light from four Photoflood lamps in Kodaflectors. The film is Agfa infra-red. It is a 16 mm. film and contains 36 exposures to the roll. Either the source of light or the lens of the camera must be covered with an infra-red filter. Brooke uses a Wratten No. 25 infra-red filter.

Book Notices

A TREATISE ON MEDICAL JURISPRUDENCE. By Benton S. Oppenheimer, LL.B., LL.M. of the Cincinnati Bar, Professor of Law, College of Law, University of Cincinnati, Professor of Medical Jurisprudence, College of Medicine, University of Cincinnati. Cloth. Pp. 290. Price, $4.00. William Wood & Company, Mt. Royal and Guilford Aves., Baltimore, Md., 1935.

As an instructor both in a college of law and in a college of medicine, the author has been able to look at the complicated fields of medicine through the eyes of a lawyer, and at least to get a good idea of how law looks to a doctor. He has thus been able to present a book without too much technicality, containing material helpful both to the physician who gets into legal difficulties and to the attorney who must help him out.

THE RANGE OF HUMAN CAPACITIES. By David Wechsler, Ph.D., Chief Psychologist, Psychiatric Division, Bellevue Hospital, New York City. Cloth. Pp. 159. Price, $2.50. Williams & Wilkins Company, Mt. Royal and Guilford Aves., Baltimore, Md., 1935.

This is an extremely informative book on a subject which should have been more systematically studied long ago. The writer searched the literature for reports of studies and measurements of human beings, using none which was based on measurements of less than one hundred individuals. He collected data covering a great variety of traits, abilities, and

capacities, many of them physical, such as body temperature, rate of respiration, length of foot, etc., and others mental. For his main thesis he discarded the extremes, both high and low (discussing these in a separate chapter), and concludes that for the overwhelming mass of humanity the extent of variations, physical or mental, is extremely limited—far smaller than is ordinarily supposed. Since he gives the sources of his information, he invites those who disagree with his conclusions to discard their prejudices, study the facts and reach their own. He points out that the material contained in the book, far from being the concern of science alone, involves some of the most practical problems of human relationships including the status of democracy, the problems of technocracy in relation to human efficiency, and the attempts at social reorganization on the basis of abilities and needs as contrasted with geographical distributions and caste systems.

THE ANATOMY OF THE NERVOUS SYSTEM. By Stephen Walter Ranson, M.D., Ph. D., Professor of Neurology and Director of the Neurological Institute, Northwestern University Medical School, Chicago. Fifth edition, revised. Cloth. Pp. 501 with 381 illustrations, some of them in colors. Price, $6.50. W. B. Saunders Company, West Washington Square, Philadelphia, 1935.

This outstanding volume among the books on neuroanatomy for medical students has been largely rewritten in order that it may be kept up to date and yet not be made larger by the addition of the great amount of new facts recently brought to light. It has been enlarged through the addition of a splendid collection of illustrations of brain sections, which make up a section in the back of the book. There is a good bibliography.

THE SPLEEN AND RESISTANCE. By David Perla, M.D., Associate Pathologist and Bacteriologist, Montefiore Hospital, and Jessie Marmorston, M. D., Associate in Pathology, Cornell University Medical College, with a foreword by David Marine, M.D. Cloth. Pp. 170. Price, $2.00. Published by Williams & Wilkins Company, Mt. Royal and Guilford Avenues, Baltimore, Md., 1935.

This book will make interesting reading to many osteopathic physicians, particularly those to whom Louise Ferris-Swift's paper, in this number of THE JOURNAL appeals.

The book gives an excellent histological and anatomical presentation and tells the response of the spleen to various infections in different experimental animals. The pathological changes in the spleen in infections are described in detail—in acute bacterial infections, in virus diseases, in chronic infections, in protozoan and hematozoan infections, and in diseases due to fungi and to animal parasites. The role of the spleen in antibody formation is discussed in one chapter while others give the effects of natural resistance of splenectomy in animals; the relation of the spleen to acquired resistance in latent infections; compensatory changes following splenectomy and other subjects.

There is an extensive bibliography.

THE STOMACH AND DUODENUM. By George B. Eusterman, M.D., F.A.C.P., Head of Section in Division of Medicine, The Mayo Clinic, Professor of Medicine, The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; and Donald C. Balfour, M.B., M.D. (Tor.), LL.D., F.A.C.S., F.R.A.C.S., Head of Section in Division of Surgery, The Mayo Clinic, Professor of Surgery, The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; and Members of the Staff, The Mayo Clinic and The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. Cloth. Pp. 958 with 436 illustrations. Price, $10.00. W. B. Saunders Company, West Washington Square, Philadelphia, Pa.

Eusterman and Balfour had the help of thirteen men on the staff of the Mayo Clinic in preparing this volume. As the Mayo Brothers say in their foreword, this book is not made up of the general opinions of a number of men, but rather "the opinion of a group who are working together as one man's observation, in the attempt to give the patient the advantage of what is known."

Immediately following the opening chapter on the history of diseases of the stomach and duodenum comes an outstanding chapter by Alvarez on applied physiology of the stomach and duodenum. This chapter is in keeping with the usual high standards of this writer, and it sets a pace which others follow through in their discussions of the experimentally produced chronic gastric and duodenal ulcer; surgical pathology of stomach and duodenum; the stomach and duodenum at necropsy; dyspepsia; examination of the patient; test meals and their diagnostic significance; significance of symptoms; roentgenologic diagnosis, and so on through a total of sixty-three informative chapters besides an appendix containing an outline of diets commonly used, and a bibliographic index which refers by pages to the host of writers who are quoted throughout the book, citations to their writings accompanying the text.

It is a valuable book.

(See editorial on page 246.)

THE HUMAN FOOT: Its Evolution, Physiology and Functional Disorders. By Dudley J. Morton, Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University. Cloth. Pp. 244, 100 illustrations. Price, $3.00. Columbia University Press, 2960 Broadway, New York City, 1935.

In the first part of this book the author goes exhaustively into the evolution of the human foot. This phase of the subject—though rather lengthy—is well written and well illustrated. It forms an ideal background for the proper understanding of the later sections. Morton not only considers the philogenetic development of the foot itself, but also the transition in the structure of the gross body framework from the quadruped type of animal to the human.

In the section on physiology of the human foot, he first stresses the interdependence of the function of the foot and of the remainder of the framework of the body. This is of interest from the standpoint of posture. He points out the fallacy of the conception of the presence of an anterior transversal metatarsal arch by use of the staticometer (multiple dial scale). He has found that each metatarsal head registers pressure on the scale as the foot bears weight. From comparing the weight registered by each metatarsal head, he concludes that normally the midline of foot balance in the standing position is represented by a line from the heel, extending forward between the second and third metatarsals.

In walking, the heads of the first two metatarsals are claimed to receive most of the stress so that the "leverage axis" passes between these two. Since the first metatarsal and its functionally related bones are larger and longer than those of the second, and since the great toe is normally the last point of contact as the heel is raised in walking, he is led to stress the importance of the proper length and stability of the first metatarsal.

He claims that the most outstanding cause of faulty foot mechanics is a congenitally short first metatarsal bone, or in some cases an abnormal posterior position of the two sesamoids of the great toe, since these are pointed out to be weight-bearers. As the second cause he stresses a hypermobility of the first metatarsal of such a degree that in walking the great toe is too relaxed to "dig in" or grip properly. This latter condition is not diagnosed, as we should expect, by simply testing for motion by palpation, but by finding with the use of the x-ray an abnormal separation of the first cuneiform from the other two cuneiforms. The author reproduces x-ray plates to show a compensatory hypertrophy of the second metatarsal and evidence of joint irritation around the smaller cuneiform related posterially to the second metatarsal. Since the prop or supporting action of the first metatarsal is lost, he claims that the foot has the tendency to pronate or roll inward unless prevented by the leg muscles which oppose this.

His outstanding suggestions in treatment are supports to be worn inside the shoe—one designed to elevate the first metatarsal and another to oppose pronation of the foot. The posterior part of the longitudinal arches is scarcely mentioned. The positions and functions of the talus and calcaneous are considered as affected only secondarily by faulty mechanics in the front of the foot. We have considered—and still believe—that talocalcaneal pathology is a prime

factor in disturbing the alignment and efficiency of the remainder of the foot.

We can accept this work as a worth-while contribution which, if substantiated by our own clinical observations, may be added to our previously accepted causes of mechanical foot disorders. Many of the mechanical disorders which we recognize can be removed with the total disappearance of symptoms. The type of treatment suggested by Morton is admittedly entirely substitutional in character.

W. F. STRACHAN.

State Boards

Illinois

Oliver C. Foreman, 58 E. Washington Ave., Chicago, reports that the Illinois State Board examinations will be held January 28, 29, and 30.

Iowa

The next examinations by the Iowa Board of Examiners in the Basic Sciences will be held on January 14. Address all communications to E. A. Benbrook, Secretary, Iowa Board of Examiners in Basic Sciences, Iowa State College of Agriculture and Mechanic Arts, Ames.

The next examination before the Iowa State Board of Osteopathic Examiners will be held at the State Capitol Building, Des Moines, on January 27, 28, and 29. For application blanks and other information address D. E. Hannan, secretary, 202 Bruce McLaughlin Building, Perry.

Kansas

The next meeting of the Kansas State Board of Osteopathic Examination and Registration will be held in Topeka on February 20 and 21. Blanks may be obtained by writing to the secretary, F. M. Godfrey, 831 Kansas Ave., Topeka.

Michigan

The Michigan State Board of Osteopathic Registration and Examination will hold the midyear examinations January 28, 29, and 30, in Lansing. Address all communications to F. Hoyt Taylor, secretary, 1703 Olds Tower, Lansing.

Missouri

The Missouri State Board of Osteopathic Registration and Examination will meet January 22, 23 and 24 at both the Kirksville and Kansas City Colleges of Osteopathy and Surgery. For further information and application blanks write to the secretary, J. L. Allen, 1002 Chambers Bldg., Kansas City, Mo.

Vermont

The next meeting of the Vermont Board of Osteopathic Examination and Registration will be held at the State House, Montpelier, January 30 and 31, 1936. Application forms and further information may be secured from R. L. Martin, Secretary, 24 Elm St., Montpelier.

Washington

The next meeting of the Washington Osteopathic Examination Board will be held in January. Address all applications to the president, A. B. Cunningham, 707 Shafer Bldg., Seattle.

West Virginia

The next meeting of the West Virginia Board of Osteopathy will be held on February 10 and 11 at Clarksburg. For application blanks address the secretary, Guy E. Morris, 542 Empire State Bldg., Clarksburg.

Conventions and Meetings

Announcements

American College of Osteopathic Obstetricians, New York City, July 18.

American College of Osteopathic Surgeons, Denver.

American Osteopathic Association, Waldorf-Astoria Hotel, New York City, July 20-24. Program chairman, George W. Riley, New York City.

American Osteopathic Society of Proctology, New York City, July 20-24. Program chairman, Collin Brooke, St. Louis, Mo.

A. T. Still Osteopathic Foundation and Research Institute, New York City, July 20.

Arizona state convention, May.

Arkansas state convention, Little Rock, May.

Associated Colleges of Osteopathy, New York City, July 17.

Associated Hospitals of Osteopathy, New York City, July 21.

California state convention, Pasadena, June 22-26. Program chairman, P. T. Collinge, Los Angeles.

Colorado state convention, Denver, June or July. Program chairman, F. E. Johnson, Colorado Springs.

Eastern Osteopathic Association, Hotel Pennsylvania, New York City, March 28, 29. Program chairman, R. McFarlane Tilley, Brooklyn, N. Y.

Florida state convention, Daytona Beach, May. Program chairman, L. A. Robinson, Daytona Beach.

Georgia state convention, Columbus, June. Program chairman, M. W. Henderson, Atlanta.

Illinois state convention, Hotel LaSalle, Chicago, May, 17-19. General convention chairman, Fred Shain, Chicago.

Indiana state convention, Indianapolis. Program chairman, Paul van B. Allen, Indianapolis.

International Society of Osteopathic Ophthalmology and Otolaryngology, Philadelphia, July.

Iowa state convention, Hotel Savery, Des Moines, May 1, 2. Program chairman, W. C. Chappell, Mason City.

Kansas state convention, Salina, October 13-15. Program chairman, Lawton M. Hanna, Clay Center.

Kentucky state convention, Louisville, October 15, 16. Program chairman, O. C. Robertson, Owensboro.

Middle Atlantic States convention, Richmond, Va.

Minnesota state convention, Hotel Radisson, Minneapolis, May 1, 2. Program chairman, Grace Meyers, Minneapolis.

Missouri state convention, St. Louis, October.

Montana state convention, Miles City, September. Program chairmen, F. L. Anderson and J. R. Mathis, both of Miles City.

National Board of Examiners for Osteopathic Physicians and Surgeons, New York City, July 19.

Nebraska state convention, Omaha, September.

New England Osteopathic Association, Biltmore Hotel, Providence, R. I., May 1, 2. Program chairman, Gervase C. Flick, Jamaica Plain, Boston, Mass.

New Hampshire state convention, Manchester, April 18. Program chairmen, Osmond R. Strong, Concord, and Kenneth Steady, Portsmouth.

New Jersey state convention, May 13. Program chairman, Harold L. Colburn, Montclair.

New Mexico semiannual meeting, Raton, April or May. Program chairman, Caroline C. McCune, Santa Fe.

North Carolina state convention, Southern Pines, April.

Ohio state convention, Hotel Gibson, Cincinnati, May 17-19. General convention chairman, C. A. Ross, Cincinnati.

Oklahoma state convention, Tulsa, April.

Oregon state convention, Medford.

Osteopathic Women's National Association of New York City, the week of July 19. General program chairman, Grace R. McMains, Baltimore, Md.

South Dakota, Deadwood.

Texas state convention, Dallas, June 4-6. Program chairman, Chester L. Farquharson, Houston.

Utah state convention, Salt Lake City, June.

Vermont state convention, Montpelier, October. Program chairman, H. I. Slocum, Middlebury.

Virginia semiannual meeting, Richmond, May 2. Program chairman, F. D. Swope, Alexandria.

Washington state convention, Walla Walla, late May or early June.

West Virginia state convention, Wheeling, June. Program chairman, Albert Graham, Wheeling.

Official and Affiliated Organizations

ARIZONA

State Society

The semiannual meeting of the Arizona Society of Osteopathic Physicians and Surgeons was held at Mesa on October 26. Philip F. Hartman, Mesa, gave a case report on "Angioneurotic Edema"; C. E. Towne, Tucson, reported on the meeting of the House of Delegates at Cleveland. A. B. Stoner, Phoenix, led a legislative discussion.

CALIFORNIA

Citrus Belt Branch

A one-week drive for membership in the California Osteopathic Association was launched at a meeting held on November 14 at Pomona. At this meeting also, Walter Hopps, Los Angeles, spoke on "Faulty Posture," giving two case records and illustrating the talk with x-ray plates.

East Bay Branch

At the midwinter meeting held on December 7, the East Bay Branch entertained the San Francisco Branch and other Northern California Osteopathic societies. Ralph W. Rice, Los Angeles, lectured on the orthopedic aspects of the low back problem and illustrated his talk with motion pictures. C. H. Downing, San Francisco, led a discussion. Motion pictures of technic were shown.

Glendale Branch

A meeting was held on December 11. Floyd J. Trenery, Los Angeles, talked on cancer.

Hollywood Osteopathic Luncheon Club

At a meeting held on December 3, Duane Stonier, Los Angeles, spoke on "The Pathology of Kidney Diseases."

Long Beach Branch

At the November meeting, eight five-minute talks on disorders of the alimentary tract were given. The speakers were: Bruce E. Waller, W. J. Blount, Irving D. Ewart, Elmer S. Clark, Rufus A. Davis, Charles R. Poitevin, Arthur E. Pike, and Gerald Houts, all of Long Beach. Floyd J. Trenery, Los Angeles, discussed the use of x-rays and of radium in disease.

Los Angeles Branch

The November meeting was held on the 18th with John E. Rogers, Oshkosh, Wis., as guest speaker. His subject was "Osteopathic Education." Lillian M. Whiting, Los Angeles, spoke on "Birth Control."

A meeting was held on December 9. F. W. Ingvolstad, D.D., spoke on "Medical Institutions in Russia"; J. Willoughby Howe, Los Angeles, on "The Relation of the Surgical Department to the Public," and Mr. Raymond Nettleship, Los Angeles, "Physician and Patient Relationships."

Oakland Osteopathic Luncheon Club

Meetings were held on November 19 and December 3.

Orange County Branch

At a meeting held on November 14, L. B. Faires, Los Angeles, spoke on "Differential Diagnosis of Genitourinary Conditions." Following the talk a discussion was led by John S. Helmcken, Santa Ana.

Pasadena Branch

At the November 21 meeting, Charles H. Spencer, Los Angeles, spoke on "Applied Physiology of the Muscles of the Back and Joints." William F. Madsen, Pasadena, led a discussion of Dr. Spencer's paper.

San Diego Branch

A meeting was held on December 6. Basil K. Woods, Los Angeles, spoke on "Diagnosis and Treatment of Foot Conditons." S. H. Laughton, San Diego, reported on the progress of the membership campaign.

San Francisco Branch

(See East Bay Branch.)

San Joaquin Valley Branch

A meeting was held on November 24 at Reedley. L. D. Whiting and Burton Edmiston, both of Los Angeles, spoke on "Endocrines in Relation to Growth, Development and Health, and Methods of Correction." Lillian M. Whiting, Los Angeles, presented case histories.

San Jose Branch

A meeting was held on December 7. Edward L. Kushner, Oakland, discussed the latest methods of treatment of arthritis.

Tri-Counties Branch

The semiannual meeting was held at Santa Maria on November 17. Frank MacCracken, Fresno, discussed schools of osteopathy. Thomas J. Meyers, Pasadena, spoke on epilepsy.

CONNECTICUT

State Society

At the annual meeting held on November 16 at New Haven, James T. Berry, Hartford was reelected president.

FLORIDA

Pinellas County Osteopathic Society

At a meeting held on December 3 at St. Petersburg, the following officers were elected: President, C. H. Jennings; vice president, Thomas F. Gagen, Jr.; secretary-treasurer, Florence M. Town, all of St. Petersburg.

St. Petersburg Osteopathic Round Table Luncheon

All osteopathic physicians visiting St. Petersburg during the winter months are urged to attend the Osteopathic Round Table Luncheon held at the Spanish Village at 12 o'clock each Friday.

ILLINOIS

Chicago Osteopathic Association

The regular monthly meeting was held on December 5. Mr. M. B. Kennedy, attorney for the Illinois and Chicago osteopathic associations, spoke on legislative matters.

Chicago-North Shore Osteopathic Society

Arvilla P. McCall, Evanston, reports that a meeting was held on December 6. J. H. Styles, Jr., Kansas City, Mo., gave a lecture on foot mechanics.

At a meeting held on December 20, George MacGregor, Chicago, was the speaker.

Illinois Valley Osteopathic Society

George M. Laughlin, Kirksville, Mo., spoke before a meeting of this group on December 2, instead of November 29, as reported in THE JOURNAL for December.

Rockford Osteopathic Society

A meeting was held on November 21. H. G. Arfstrom, Rockford, discussed lower back strains and sacroiliac lesions.

Second District Illinois Osteopathic Association

The winter meeting is scheduled to be held on January 9. C. Gorham Beckwith, Chicago, will talk on posture, and will show x-ray films.

Fourth District Illinois Osteopathic Association

A meeting was held on November 21 at Pontiac. State relief and compensation from insurance were discussed. R. P. Armbruster, Pontiac, discussed the importance of student recruiting. C. E. Cryer, El Paso, read a paper on "Osteopathic Pathology of the Foot," and demonstrated corrective technic. W. R. Carlin, Dwight, discussed and demonstrated "Rib Technic," and W. A. Clore, Pontiac, discussed and presented technic on the correction of sacroiliac lesions, twisted pelvis, and diseases caused by sacroiliac strains.

G. W. Wissmiller, Cooksville, was elected secretary-treasurer.

The next meeting is scheduled to be held on January 16 at Peoria.

INDIANA

Indianapolis Osteopathic Society

A meeting was held on December 6 at Indianapolis. V. B. Wolfe, Walkerton, H. K. Radcliff, Muncie, J. B. Kinsinger, Rushville, and Walter Grow, Indianapolis, were the speakers.

Northeastern Indiana Osteopathic Association

Rufus Von Gunten, Berne, reports that a meeting was held on November 21 at Fort Wayne. V. B. Wolfe, Walkerton, spoke on social security legislation and J. M. Kauffman, Goshen, on proctology.

Northern Indiana Osteopathic Association

A meeting was held on November 20 at Nappannee. D. R. McKissick, Chicago, spoke on pernicious anemia, and C. S. Kahler, D.D.S., Nappannee, talked on focal infection.

Southern Wabash Valley Osteopathic Association

Gail G. Jackson, Vincennes, reports that a meeting was held on December 5 at Vincennes. V. B. Wolfe, Walkerton, E. B. Cary, Brazil, and Mr. Walter Newcomb, Vincennes, a shoe dealer, were the speakers.

The following officers were elected: President, Dr. Cary; secretary-treasurer, Dr. Jackson.

IOWA

Boone-Story Osteopathic Association

A meeting was held on December 5 at Ames. D. E. Hannan, Perry, was the speaker.

Cerro Gordo County Osteopathic Association

The present officers are: President, O. M. Reeve, and secretary-treasurer, Helene K. Groff, both of Mason City.

Linn County Society of Osteopathic Physicians and Surgeons

A short meeting was held on December 10. Among the plans for the coming year is the organization of a study club which will not only function within the organization, but will provide outstanding speakers and programs.

The following officers were elected: President, S. A. Helebrant; vice president, H. L. Hinton; secretary-treasurer, Paul O. French, all of Cedar Rapids.

Fourth District Iowa Society of Osteopathic Physicians and Surgeons

The officers were reported in THE JOURNAL for December. The following committee chairmen have been appointed: Hospitals, W. D. Andrews, Algona; publicity, Harold H. Jennings, Mason City; convention program, W. C. Chappell, Mason City.

Sixth District Iowa Osteopathic Association

The annual meeting was held on October 22 at Marshalltown. R. C. McCaughan, Chicago, spoke on the work of the national Association, and Harold I. Magoun, Scottsbluff, Neb., talked on body chemistry.

KANSAS

Arkansas Valley Society of Osteopathic Physicians and Surgeons

A meeting was held on November 21 at Larned. A discussion of problems of the profession was conducted.

Central Kansas Association of Osteopathic Physicians and Surgeons

Lawton M. Hanna, Clay Center, reports that a meeting was held on November 21 at Florence. C. A. Tedrick, Wichita, talked on "Cardiac Pathology," and J. F. Dinkler, Emporia, on "State Problems."

Eastern Kansas Osteopathic Society

L. E. Bice, Lawrence, reports that a meeting was held on November 14 at Garnett, with the Verdigris Valley Osteopathic Association. Wallace M. Pearson, Kansas City, Mo., spoke on "Some New Studies in X-Rays of the Iliolumbar Area." J. M. Peach, B.S., Kansas City, Mo., also spoke.

Flint Hills Osteopathic Society

A meeting was held on November 21 at El Dorado.

North Central Society of Osteopathic Physicians and Surgeons

A meeting was held on November 14 at Smith Center. Harold A. Fenner, North Platte, Neb., was the principal speaker.

The December meeting was held on the 12th at Smith Center. A discussion on legislation was conducted.

North East Kansas Osteopathic Association

A meeting was held in Frankfort on December 4. L. L. Poland, Marysville, spoke on "The Glands and Glandular Tissues of the Body."

South Central Kansas Osteopathic Society

This society was organized on November 21 at El Dorado. It includes Cowley, Butler, Greenwood, Elk, and Chautauqua counties. J. T. Catlin, Eureka, spoke on "Endocrine Gland Activity." A general discussion followed.

Southern Kansas Osteopathic Association

C. C. Matheny, Anthony, reports that a meeting was held on December 10 at Harper. The Harper County Health Officer discussed state health laws, and Fred J. Cohen, Wichita, spoke on "Tinnitus Orum."

Verdigris Valley Osteopathic Association

J. Ralph Cunningham, Cherryvale, reports that a dinner meeting was held on December 12 at Independence. A discussion of legislation was conducted. Reports of the Clinic Day held at the Southwestern Osteopathic Hospital on December 5 were presented by David D. Harbaugh, Coffeyville; H. S. Wiles, Neodesha; J. E. Freeland, Coffeyville; J. Ralph Cunningham, Cherryvale; Milton V. Gafney, Neodesha; Wayne M. Weaver, Fredonia.

The following officers were elected: President, C. S. Anderson, Parsons; vice president, Earl L. Cowman, Independence; secretary-treasurer, Dr. Cunningham.

The regular meeting night was changed from the second Thursday of each month to the third Thursday.

The January meeting will be held at Cherryvale.

Wichita Osteopathic Society

At a meeting held on December 3 the following officers were elected: President, P. C. Schabinger; vice president, Fred J. Cohen; secretary-treasurer, Ray E. McFarland, all of Wichita.

KENTUCKY

State Association

Officers were reported in THE JOURNAL for December. Committee chairmen have been appointed as follows: Membership, O. C. Robertson, Owensboro; professional education, Martha F. Garnett, Louisville; censorship, C. E. Pollock, Cynthiana; student recruiting, Nora Prather, Louisville; public health and education, Evelyn R. Bush, Louisville; clinics, C. H. Robertson, Owensboro; statistics, Martha D. Beard, Hopkinsville; convention program, O. C. Robertson, Owensboro; convention arrangements, Dr. Garnett; legislation, Stanley G. Bandeen, Louisville; professional development, E. W. Patterson, Louisville.

LOUISIANA

State Association

The convention of the Louisiana Osteopathic Association was held on December 14 and 15 at New Orleans. The following officers were elected: President, W. Luther Stewart, Alexandria; vice president, V. L. Wharton, Lake Charles; secretary, Henry Tete, New Orleans, reelected; treasurer, E. L. Bueler, New Orleans.

MAINE

Central Maine Osteopathic Society

The annual meeting was held on December 1 at Pittsfield. The state director of physical education gave a talk on "Physical Education and Athletics."

The following officers were elected: President, William H. Sherman, Augusta; vice president, Wallis L. Bursey, Farmington; secretary-treasurer, C. S. Chickey, Oakland.

Middlesex South Osteopathic Society

The annual meeting was held on December 5 at Newton. Perrin T. Wilson, Cambridge, spoke on "Bedside Technic."

The following officers were elected: President, Everett L. Pierce, Newton; vice president, Lawrence F. Walsh, Cambridge; secretry-treasurer, Harry E. Cash, Newton Center; trustees, Alexander McWilliams, Boston; Myron B. Barstow, Boston; Ruth A. Anderson, Boston; Leslie Frew, Waltham.

Worcester District Osteopathic Society

H. P. Frost, Worcester, reports that a meeting was held on December 4. R. K. Smith, and Joseph C. Basso, both of Boston, spoke.

The January meeting is scheduled to be held on the 8th.

MICHIGAN

Northeastern Michigan Osteopathic Physicians and Surgeons Association

A meeting was held on December 11. E. A. Ward, Saginaw, spoke on the opening of medical laboratories to osteopathic research workers. H. W. Conklin, Battle Creek, spoke on "Modern Treatment of Epilepsy," and C. J. Manby, Battle Creek, on "Advances in Surgical Treatments of Hemorrhoids."

Oakland County Osteopathic Association

At the November meeting H. J. Brown, Oxford, spoke on "Colles's Fracture," illustrating the talk with x-ray views.

MINNESOTA

Minneapolis Osteopathic Society

Elnora S. Ervin, Minneapolis, reports that a meeting was held on December 4, in celebration of the eighty-fifth birthday of Dwight J. Kenney, Minneapolis, said to be the oldest practicing osteopathic physician in the state. Stories were told of the experiences in the early history of the profession in Minnesota.

MISSOURI

State Association

Officers were reported in THE JOURNAL for December. Committee chairmen have been appointed as follows: A.O.A. special membership, Margaret Jones, Kansas City; membership, F. W. Zuspan, Flat River; professional education, Wallace M. Pearson, Kansas City; hospitals, H. E. Reuber, Sikeston; censorship, H. A. Gorrell, Mexico; student recruiting, F. C. Hopkins, Hannibal; public health

and education, H. J. McAnally, Kansas City; industrial and institutional service, T. O. Pierce, St. Joseph; clinics, F. J. Meyer, Clayton; publicity, H. E. Litton, Kirksville; statistics, O. L. Dickey, Joplin; convention program, Collin Brooke, St. Louis; convention arrangements, Walter E. Bailey, St. Louis; legislation, Q. L. Drennan, St. Louis; professional development, G. N. Gillum, Kansas City; displays at fairs and expositions, E. H. Owens, Harrisonville; delegates to A.O.A. convention, Dr. Bailey, W. E. Hartsock, St. Joseph, Dr. Dickey, Charles Kramer, Kansas City; alternates, H. G. Swanson, Kirksville, Collin Brooke, St. Louis, A. B. Crites, Kansas City, Fred Still, Macon.

Buchanan County Osteopathic Association

The following officers were elected on November 22: President, T. O. Pierce, St. Joseph; vice president, Charles J. Karibo, St. Joseph, reelected; secretary-treasurer, Hooker N. Tospon, St. Joseph, reelected; state trustee, Foy Trimble, St. Joseph.

Central Missouri Osteopathic Association

A meeting was held on November 28 at Wellsville. F. J. Meyer, Clayton, was the speaker.

Kansas City Society of Osteopathic Physicians and Surgeons

Hazel A. Clark, Kansas City, reports that the monthly dinner meeting was held on November 19. Herman Shablin, Kansas City, spoke on organized osteopathy. N. H. Hines, Kansas City, reported that the contagious diseases most prevalent in Kansas City during the past week were whooping cough, infantile paralysis, meningitis, mumps, streptococcic sore throat, diphtheria, and chicken-pox. Wallace M. Pearson, Kansas City, spoke on "Comparative Therapeutics."

North Central Missouri Osteopathic Association

The officers were reported in THE JOURNAL for November. The following committee chairmen have been appointed: Membership, Grace Simmons, Milan; professional education, George W. Held, Dalton; hospitals, W. B. Simpson, Brookfield; censorship, Cecil G. Wise, Harris; student recruiting, H. H. Potter, Brookfield; public health and education, F. E. Nelson, Gallatin; industrial and institutional service, M. E. Elliott, Chillicothe; clinics, Gilbert H. Kroeger, Purdin; publicity and statistics, William F. LaMance, Laclede; convention program and arrangements, E. W. Simpson, Milan; legislation and professional development, J. L. Fetzer, Brunswick.

Northeast Missouri Osteopathic Association

At a meeting held on November 14 at Quincy, W. C. Eldrett, Carthage, Ill., and J. D. Stewart, M.D., (Edin.) a student at Kirksville college, were the speakers.

The following officers were elected: President, H. G. Swanson, Kirksville; vice president, Perry Borton, Kahoka; secretary-treasurer, H. P. Hoyle, Macon.

Ozark Osteopathic Association

The officers were reported in THE JOURNAL for December. The following committee chairmen have been appointed: Membership, I. L. James; professional education, student recruiting, statistics, professional development, Lou Tway Noland; hospitals, public health and education, and industrial and institutional service, William L. Wetzel; publicity, T. M. King; legislation, Lou Tway Noland and Dr. King, all of Springfield; censorship, R. C. Mitchell, Republic.

Southwest Missouri Osteopathic Association

On November 20, D. W. Derfelt, Joplin, was elected secretary to fill out the unexpired term of J. D. Averill, Joplin. The following program was presented: "Latest Medical Books Are Adopting Osteopathic Diagnosis," M. S. Slaughter, Webb City; "Osteopathic Treatment for Insanity," M. S. McCullough, Neosho; "Diphtheria and Osteopathic Treatment," Cecil F. Gregory, Webb City. Albert H. Wheeler, Carthage, reported on the state convention.

West Central Missouri Osteopathic Association

Glenn E. Darrow, Independence, reports that a meeting was held on December 12 at Harrisonville. Pearl E. Thompson, St. Louis, spoke on "Art of Practice," and Edith Salmon, Appleton City, led a discussion on the recent A.O.A. JOURNAL.

MONTANA

North Central Montana Osteopathic Association

A meeting was held on November 17 at Lewistown. Gordon Dutt, Great Falls, president of the organization, was in charge of a clinic held in the morning. In the afternoon the principal address was made by George M. McCole, Great Falls, who spoke on osteopathic treatment of epidemic diseases. Round table discussions were held.

NEBRASKA

State Association

The first meeting of the state executives was held at Clay Center on October 13. Committee chairmen were reported in THE JOURNAL for November. Additional committee chairmen are as follows: District contact, M. T. Boulware, McCook; legislative advisory, constitution and ethics, C. B. Atzen, Omaha; state fair, H. R. Shickley, Lincoln; publicity, O. D. Ellis, Lincoln; library books and exhibits. Jennie M. Laird, Omaha; membership, R. H. Cowger, Hastings; student recruiting, C. Lloyd Peterson, Beatrice; historical, Dr. Atzen; program, P. F. Kani, Omaha; convention city, Arabella Livingston, Omaha.

Southwestern Nebraska—Northwestern Kansas Osteopathic Society

The regular dinner meeting was held on November 24 at Holdrege. Speakers on the program were G. L. Montgomery, McCook; I. D. Gartrell, Clay Center; Harold A. Fenner, North Platte and George C. Widney, Lexington.

NEW JERSEY

Bergen County Osteopathic Society

A meeting was held on December 3 at Teaneck. Stephen Szalay, Teaneck, reviewed Beckman on "Thyrotoxicosis"; James E. Chastney, Hackensack, spoke on "Stool Analysis," and Donald S. Terhune, Teaneck, on "Hospitalization."

Essex County Osteopathic Society

A. W. Brice, Glen Ridge, reports that the December meeting was held on the 10th at Bloomfield. J. M. Watters, Newark, spoke on "Practical Examination and Demonstration of Ear, Nose and Throat Conditions."

Hudson County Osteopathic Society

A meeting was held on November 6 at Bayonne. C. B. Ackley, Union City, discussed the osteopathic diagnosis and treatment of simple and pernicious anemia.

At a meeting held on December 4 at Bayonne, W. F. True, David S. Steinbaum, and D. P. Donovan, all of Bayonne, discussed the osteopathic relation to the workmen's compensation act. A round table discussion was held on osteopathic care in accident cases.

The following officers were elected; President, Dr. True; vice president, F. P. Manchester, Bayonne; secretary-treasurer, R. L. Sifrit, Hoboken; trustees, A. J. Molyneux, Jersey City, Dr. Donovan, and Dr. Steinbaum; delegate to New Jersey Osteopathic Society, Dr. Steinbaum.

NEW YORK

Central New York Osteopathic Society

A meeting was held on November 24 at Syracuse. Eugene R. Kraus, New York City, spoke on "Congenital Anomolies of the Spine as a Common Cause of Backache," illustrating the talk with x-ray films. A. W. Bailey, Schenectady, spoke on the new compensation law. Claude M. Bancroft, Canandaigua, spoke on compensation work.

At a meeting held on December 11, the following committees were appointed: Publicity, P. H. O'Hara and Judson W. Johnston, both of Syracuse; program, chairman T. T. Bassett, Syracuse, A. S. Prescott, Syracuse, and Stewart P. Smith, Skaneateles.

Osteopathic Society of the City of New York

The December meeting was held on the 21st instead of on the 19th as originally planned. Future monthly meetings will be held at the Waldorf-Astoria Hotel.

At the December meeting the following program was presented: "Osteopathic Care of Athletes," R. Arthur Fish, Flushing, L.I.; a general discussion on "The Treatment of Rheumatic Disease, Particularly in Relation to Atrophic and Hypertrophic Arthritis."

The January meeting is scheduled to be held on the 18th. Ralph P. Baker, Lancaster, Pa., will speak on "Diagnosis and Renal Disease."

Westchester Osteopathic Society

Harold C. West, Yonkers, reports that a meeting was held on December 11 at Pelham. A round table discussion on the lower dorsal and rib lesions was conducted by John T. Mearns, Greenwich, and George T. Schoelles, Bronxville.

OHIO

Dayton Osteopathic Club

At the December 2 meeting, Mr. F. C. Lyons and Mr. R. E. Robilard of the General Motors Corporation, spoke

on "Uses and Advantages of the New Refrigeration Gas F-114."

Southeastern Ohio Osteopathic Society

A meeting was held on November 25. H. T. Houf, professor of philosophy at Ohio University, spoke on professional and business ethics.

Second (Cleveland) District Osteopathic Society

Charles A. Purdum, Cleveland, reports that a meeting was held on December 2. Charlotte Weaver, Akron, spoke on "Pathology Arising From Lesion of Basisphenoid and Basiocciput." A general discussion followed. Reports were presented by J. Waltemeyer Keckler, Cleveland, U.A. Charbonneau, Cleveland, and Dr. Purdum.

Third (Akron) District Osteopathic Society

Lillian H. Anderson, Akron, reports that a meeting was held on December 4. D. L. E. Dressler, Akron, spoke on "Osteopathy in Relation to Autonomic Nervous System Imbalance."

Fourth (Columbus or Central) Ohio Osteopathic Society

Frances L. White, Columbus, reports that a meeting was held on December 5. Harrison J. (Buck) Weaver, Columbus, spoke on "Hay Fever."

Fifth (Dayton) District Osteopathic Society

E. E. Leonard, Dayton, reports that a meeting was held on December 13 at Springfield. Mr. G. E. Harter, Founder-Director of the Defensive Diet League of America, was the speaker.

OKLAHOMA

Central Oklahoma Osteopathic Association

A meeting was held on December 7 at Ada. T. G. Billington, Seminole, spoke on "The Manifestations of Syphilis," and Rev. O. B. Lee, Ada, on "European Travel."

The officers were reported in THE JOURNAL for December. Martin H. Bartlett, Ada, is vice president, and Paul J. Smith, Chandler, is secretary-treasurer.

Kay County Osteopathic Association

A countywide meeting was held on December 14. A. G. Reed, Tulsa, was the speaker.

South-Central District of Oklahoma Osteopathic Association

The regular monthly meeting was held at Lindsay on November 19. The speakers were Frank A. Englehart, Oklahoma City, and W. J. Rouse, Norman.

The following officers were elected: President, D. M. Russell, Lindsay; secretary-treasurer, A. A. Choquette, Chickasha.

Tulsa District Osteopathic Association

Harry E. Green, Tulsa, reports that the regular monthly meeting was held on December 5. Prof. L. S. McLeod, of the University of Tulsa, spoke on "Mental Hygiene." H. C. Baldwin, Tulsa, read a report.

PENNSYLVANIA

Harrisburg Osteopathic Society

The following officers were elected on October 11: President, John McA. Ulrich, Steelton, reelected; vice president, L. T. Hempt, Harrisburg; secretary-treasurer, H. M. Leonard, Harrisburg, reelected; clinics, Harold L. Miller, Harrisburg; publicity, Phineas Dietz, Harrisburg; legislation, G. W. Krohn, Harrisburg.

Lehigh Valley Osteopathic Society

A meeting was held on November 14 at Reading. O. J. Snyder, Philadelphia, was the speaker.

RHODE ISLAND

Newport County Osteopathic Society

The present officers and committee chairmen are as follows: President, Frederick S. Dannin; secretary-treasurer, William Desotnek; clinics and publicity, Dr. Dannin; legislation, Richard J. Dowling, all of Newport.

TENNESSEE

State Association

The officers were reported in THE JOURNAL for December. The following committee chairmen have been appointed: Membership, J. W. Moore, Johnson City, Helen Terhuwen, Nashville, and James A. Moore, Dyersburg; professional education, H. P. Schwartz, Columbia; public health and education, J. R. Shackleford, Jr., Nashville; clinics, T. O. Lashlee, Jackson; convention program and arrangements, Walter L. Baker, Memphis; legislation, E. C. Ray, Nashville. George A. Bradfute, Knoxville, was appointed alternate delegate to the A.O.A. convention.

TEXAS

East Texas Osteopathic Association

Dan A. Wolfe, Athens, reports that a meeting was held on December 7 at Athens. The following officers were elected: President, Wayne M. Smith, Jacksonville; vice president, Henry Grainger, Tyler; secretary-treasurer, Dr. Wolfe.

In conjunction with this meeting a clinic was held.

Lower Rio Grande Valley Osteopathic Association

A meeting was held on November 30 at Alamo. Archie L. Kline, Mercedes, spoke on the treatment of common foot conditions. Jacobine Kruze, San Benito, discussed and demonstrated technic for the correction of arch troubles in feet.

North Texas District Association of Osteopathic Physicians and Surgeons

A meeting was held on November 22 and 23 at Dallas. Speakers included J. R. Alexander, Houston; C. J. Wieland, Dallas, Sam F. Sparks, Dallas; C. Denton Heasley, Tulsa, Okla.; H. M. Grise, Tyler; M. A. Schalck, Dallas; M. C. Atkins, Waxahachie; Henry E. Roberts, Denton; W. S. Corbin, Chickasha, Okla.; John E. Rogers, Oshkosh, Wis.; Phil R. Russell, Fort Worth. Clinics were held on November 23.

The following officers were elected: President, Dr. Roberts; vice president, L. M. McAnnally, Fort Worth; secretary-treasurer, Marille E. Sparks, Dallas.

Southeast Texas Osteopathic Association

A meeting was held on December 7 at Bay City. Speakers included: Chester L. Farquharson, Houston; J. R. Alexander, Houston; Reginald Platt, Jr., Houston; A. Miller, Houston; C. B. Miesch, Houston; D. W. Davis, Beaumont; A. E. Stinnett, Brenham; Earl E. Larkins, Galveston, and B. L. Livengood, Bay City.

WASHINGTON

King County Osteopathic Association

A special meeting was called on October 22. Edward S. Merrill, Los Angeles, and his son, William, discussed the history and therapeutics of "Heat Treatment."

A meeting was held on November 14. Coroner Otto Mittelstadt, Seattle, outlined the duties and the work of the coroner's office. He was scheduled to give this address at the October 10 meeting but was unable to attend.

WEST VIRGINIA

Ohio Valley Osteopathic Association

At the November meeting at Bellaire, T. V. Sullivan, Wheeling, read a paper on "Guarding Against Aluminum Poison."

WISCONSIN

Milwaukee County Society of Osteopathic Medicine

H. R. Bullis, Milwaukee, reports the following meetings:

November 15—"Blood Pressure Instruments," by Mr. E. H. Schumacher.

November 22—Reports by C. C. Hitchcock and W. B. Truax, both of Milwaukee, on their good-will tour in the interest of A.O.A. membership.

December 6—"Fever Therapy With the Conducto-Therm Equipment," by R. D. Furnish, M.D., Los Angeles.

December 5—A special meeting. The Hospital Committee reported on activities.

BRITISH OSTEOPATHIC ASSOCIATION

The officers were reported in THE JOURNAL for December. The following committee chairmen have been appointed: Membership, Russell Alexander, Manchester; college and legislation, Elmer T. Pheils, Birmingham; publicity and ethics, Gordon F. Cook, London; clinics, Mr. G. Howard Nash; finance, R. W. Puttick, London; convention program, Charles W. Barber, London.

Special and Specialty Groups

Lansing (Mich.) Osteopathic Laymen's League

A meeting was held on November 23. C. Burton Stevens, Detroit, spoke on "Osteopathic Progress." This was the first anniversary meeting.

Osteopathic Clinical Society

A typographical error appeared in THE JOURNAL for December in reporting the officers. Secretary of the society is LeRoy W. Lovelidge, Jr., Strasburg, Pa., and treasurer is Fred W. Ramey, Harrisburg, Pa.

A meeting was held on December 8 at York. Riley D. Moore, Washington, D.C., spoke on "How Tom Skeyhill Recovered His Sight." Warren A. Sherwood, Lancaster, Pa., examined nose, throat and ear cases at a clinic held, George Rothmeyer, Philadelphia, feet, and Wilbur Lutz, Philadelphia, heart.

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Andrus, W. H., from Hartford, Conn., to R.F.D. 1, Southington, Conn.

Badger, William H., KCOS '35; 307 State Natl. Bank Bldg., Corsicana, Texas.

Bailey, Alice, KCOS '35; 7 Broadway, Newport, R. I.

Bailey, Homer Edward, from 201 Hotel Missouri, to 201 Hotel De Soto, St. Louis.

Bangs, Edna M., KC '35; 2912 E. 40th St., Kansas City, Mo.

Barry, Lester D. E., from Wahoo, Nebr., to 17½ N. Main St., Council Bluffs, Iowa.

Beall, James O., from 953 Minnesota Ave., to 3011 Independence Ave., Kansas City, Mo.

Black, Charles H., PCO '35; 119 S. Main St., Greensburg, Pa.

Brink, C. Allen, from Farmers Bank Bldg., to 129 S. Main, Princeton, Ind.

Brinkerhoff, V. W., from Board of Trade Bldg., to 1131-33 Edison Bldg., Toledo, Ohio.

Britton, C. H., from Plymouth Bldg., to 129 E. Grand River Ave., East Lansing, Mich.

Brown, Wm. H., from Buckner, Mo. to Rutledge, Mo.

Bruer, Carl A., KCOS '35; Freeburg Bldg., Courtland, Kans.

Bryant, A. L., from 804 Quarrier St., to 1311 Kanawha St., Charleston, W. Va.

Butterworth, C. A., PCO '35; 299 N. Mountain Ave., Upper Montclair, N. J.

Carlson, Ernest J., from Durango, Colo., to Pagosa Springs, Colo.

Cary, Una W., from Hagelstein Bldg., to 18-19 I.O.O.F. Bldg., Sacramento, Calif.

Clary, George R., from West Main St., to Pamlico Osteo. Sanatorium, Washington Park, Washington, N. C.

Comstock, E. S., KCOS '35; Norcatur, Kans.

Conklin, Roger H., PCO '35; Sugar Loaf, N. Y.

(Continued on page 19)

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CHANGES OF ADDRESS

(Continued from page 18)

Cooper, Harry F., from Birmingham, England, to 4, Little Forest Mansions, Bath Road, Bournemouth, England.

Cox, Harold R., from Randall, Kans., to Toulon, Ill.

Emanuel, Obert J., from 204 W. 55th St., to 157 W. 57th St., New York.

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Ferguson, E. Gertrude, from White Brick Bldg., to 107½ W. Main St., Neosho, Mo.

Fischer, R. C., from Frost Bldg., to 457½ Main St., Stevens Point, Wis.

Flick, G. C., from Boston, to 172 Walnut Hill Road, Chestnut Hill, Mass.

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Gress, G. W., from Wilson, Okla., to Estancia, N. Mex.

Hahn, Earl C., from Zanesville, Ohio, to 518 Second St., St. Marys, W. Va.

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CONDENSED FINANCIAL REPORT
OF THE
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KIRKSVILLE, MISSOURI
AS OF NOVEMBER 1, 1935

ASSETS

Cash	$ 58,232.36	
Bills Receivable	193,590.15	
Bills Receivable, Real Estate	38,647.63	
Bonds, Masonic Temple Association	12,000.00	
Bonds, School	4,187.22	
Equipment	70,000.00	
Real Estate	383,649.22	
Stocks	20,450.00	$780,756.58
WALTER AND CARRIE B. STEWART ENDOWMENT		
Real Estate and Mortgages	58,891.42	
Cash and Certificates of Deposit	18,325.51	
Student Loans and Personal Property	1,575.00	
Note, collateral security	3,500.00	82,291.93
ANNA K. APLIN ENDOWMENT		
Real Estate	2,500.00	
Cash and Certificates of Deposit	14,447.84	
Stocks	350.00	17,297.84
VAN B. SMITH STUDENT LOAN FUND		
Cash	209.39	
Student Loans	2,076.25	2,285.64
K. C. O. S. WOMAN'S SCHOLARSHIP LOAN FUND		
Cash	51.41	
Student Loans	992.47	1,043.88
		$883,675.87

LIABILITIES

Endowments	$162,919.29	
Surplus	720,756.58	
Indebtedness	None	$883,675.87

We, George M. Laughlin, President, and Carl E. Magee, Secretary of the Kirksville College of Osteopathy and Surgery, certify that the above is a true and correct statement.

GEO. M. LAUGHLIN, President
CARL E. MAGEE, Secretary

Subscribed and sworn to before me at Kirksville, Missouri, this 29th day of November, 1935. My commission expires Jan. 23rd, 1938.

(SEAL) FRED GROZINGER, Notary Public

No Mystery About This

December Osteopathic Magazine is completely sold (67,000). January issue going fast.

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December Osteopathic Health went over big. January issue promises greater popularity.

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The January issues of ***Osteopathic Magazine*** and ***Osteopathic Health*** are ethical, informative, attractive, and genuinely osteopathic. Increasing quantities are being sold every month. There is a reason. They are effective. You are invited to prove it.

January Osteopathic Magazine

Winner Who Lost. W. E. Maas.
The dramatic story of a ski jumper who was once a victim of infantile paralysis, and who was restored to health by osteopathy.

Pioneer from Rumania.
Story of G. M. Stern, osteopathic pioneer.

Bowl, Men, Bowl! J. F. Engleman.
A word of commendation for a very old game.

The Incomparable Asset. O. J. Snyder.
The value of health, and the value of osteopathy in maintaining and restoring it. Something, too, of the Philadelphia charity ball.

The Lone Horseman. S. V. Robuck.
An article of outstanding importance on pneumonia, which outlines the factors which predispose men to this disease.

Enthusiasm and Judgment. E. E. Tucker.
A little philosophy from the pen of a well-known contributor.

Some Mothers Are Problems! Christina Nye.
A caustic word or two concerning mothers who do not train their children in proper eating habits.

Diagnosis in Babylon. Martha Martin.
A bit of archaeology, a bit of comparison.

Osteopathic Health No. 73

Nature's Way to Health. C. J. Gaddis.
This popular article reprinted by request.

Osteopathy in Pneumonia. Edward S. Gardiner.

The Prevention of Spinal Curvature. Wallace M. Pearson.

Executive Insurance. W. O. Kingsbury.
Plea for periodic health examinations.

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